CONSTRUCTION DOCUMENTS

VALDEZ CONTAINER TERMINAL - ELECTRICAL UPGRADES

FOR THE

CITY OF VALDEZ

PREPARED BY:

RSA Engineering, Inc.
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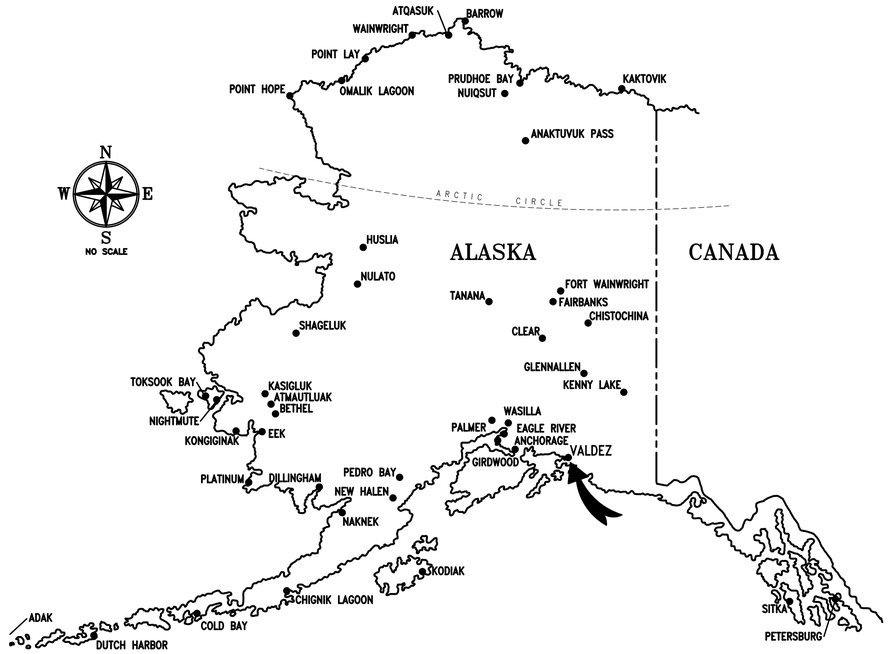
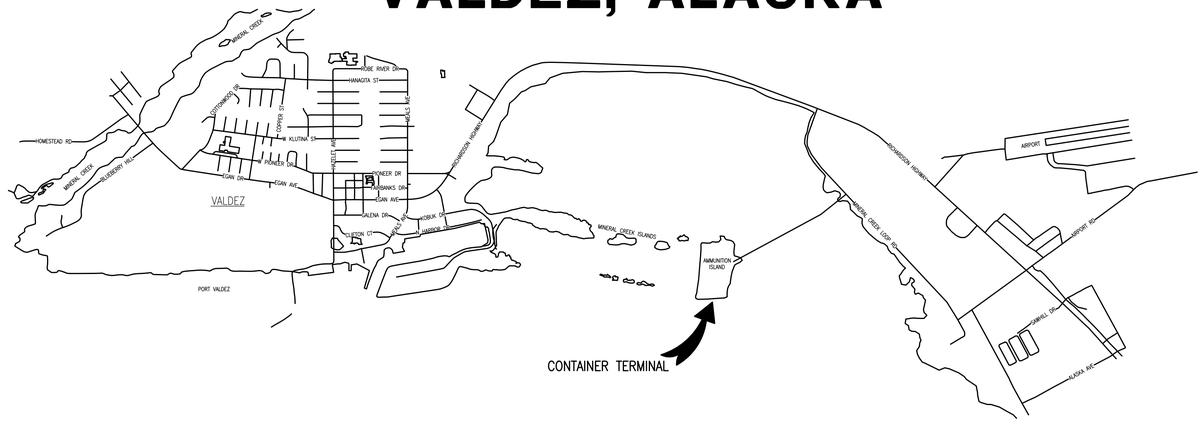


VALDEZ, ALASKA



INDEX TO DRAWINGS:

ELECTRICAL

SUMMARY OF WORK:

DEMOLITION AND REPLACEMENT OF ELECTRICAL DISTRIBUTION EQUIPMENT INCLUDING MEDIUM VOLTAGE SWITCHES, MEDIUM VOLTAGE TRANSFORMERS, SWITCHBOARDS, POWER FACTOR CORRECTION EQUIPMENT, PANELBOARDS, ETC. ALSO INCLUDES REPLACEMENT OF A DAMAGED MOTOR STARTER ON THE PIER, REPLACEMENT OF A CORRODED SERVICE DISCONNECT AT THE MAINTENANCE BUILDING, ADDITION OF REEFER PEDESTALS AND SWITCHBOARD ON THE NORTH END OF THE CONTAINER TERMINAL, ADDITION OF A NEW STANDBY DIESEL GENERATOR WITHIN WALK-IN ENCLOSURE WITH SWITCHBOARD, AUTOMATIC TRANSFER SWITCHES AND OTHER GENERATION ANCILLARIES. LASTLY, WORK INCLUDES A CONTRACTOR PROVIDED ARC-FLASH STUDY AND LABELING FOR ALL NEW DISTRIBUTION EQUIPMENT.

LEGEND

	LIGHT FIXTURE – SURFACE MTD ON WALL	A	AMPERES
	STRIPLIGHT – PENDANT OR SURFACE MTD CLG	AFF	ABOVE FINISHED FLOOR
$	SINGLE POLE SWITCH	AFG	ABOVE FINISHED GRADE
$3 , $4	THREE WAY SWITCH, FOUR WAY SWITCH	ATS	AUTOMATIC TRANSFER SWITCH
$P	PILOT LIGHT SWITCH	C	CONDUIT
	CONDUIT, CONCEALED	CVEA	COPPER VALLEY ELECTRIC ASSOCIATION
#10	NUMBER AND SIZE OF WIRES (NO MARKS = 3 #12)	E, (E)	DENOTES EXISTING ITEM
A–2	HOMERUN TO PANEL (PANEL AND CIRCUIT No.)	ERMS	ENERGY REDUCTION MAINTENANCE SWITCH
—OH/E—	OVERHEAD ELECTRICAL LINE	GFCI	GROUND FAULT CIRCUIT INTERRUPTER
—UG/E—	UNDERGROUND ELECTRICAL LINE	GRSC	GALVANIZED RIGID STEEL CONDUIT
—SR—	SURFACE RACEWAY	K	KELVIN
	PANEL	KVA	KILOVOLT AMPERES
	DUPLEX RECEPTACLE	KVAR	KILOVOLT AMPERE REACTIVE
	DUPLEX RECEPTACLE WITH GROUND FAULT CIRCUIT INTERRUPTER	KW	KILOWATT
	QUADRAPLEX RECEPTACLE	LED	LIGHT EMITTING DIODE
	SPECIAL PURPOSE OUTLET	LM	LUMENS
	RECEPTACLE FLOOR OUTLET – DUPLEX, QUADRAPLEX	MCB	MAIN CIRCUIT BREAKER
	JUNCTION BOX	MLO	MAIN LUGS ONLY
	EMERGENCY PUSHBUTTON SWITCH	NEC	NATIONAL ELECTRICAL CODE
	MOTOR (SIZED AS NOTED)	P	POLE
$7	FRACTIONAL HORSEPOWER MOTOR STARTER	PED.	PEDESTAL (REEFER)
	DISCONNECT SWITCH	PFCE	POWER FACTOR CORRECTION EQUIPMENT
	DISCONNECT SWITCH (FUSED)	R, (R)	DENOTES EXISTING ITEM THAT HAS BEEN RELOCATED
	COMBINATION DISCONNECT/MAGNETIC MOTOR STARTER	RSU	REEFER SHARING UNIT
	PADMOUNT TRANSFORMER	SDG	STANDBY DIESEL GENERATOR
	IN GRADE EXTERIOR JUNCTION BOX	SS	STAINLESS STEEL
AER	ARC–FLASH ENERGY REDUCTION SWITCH	SWBD	SWITCHBOARD
LSIG	LONG TIME, SHORT TIME, INSTANTANEOUS AND GROUND FAULT TRIP FUNCTIONS WITHIN ELECTRONIC CIRCUIT BREAKER.	T1,(T1)	DENOTES ITEM INSTALLED UNDER TASK 1
PM	POWER MONITOR (INTEGRAL TO EQUIPMENT)	T2, (T2)	DENOTES ITEM INSTALLED UNDER TASK 2
RC	REMOTE CLOSE (MOTOR/ELECTRONIC OPERATOR WITHIN BREAKER)	TTB	TELEPHONE TERMINAL BACKBOARD
S	SELECTOR SWITCH	TVSS	TRANSIENT VOLTAGE SURGE SUPPRESSION
ST	SHUNT TRIP (FUNCTION WITHIN BREAKER)	TYP	TYPICAL
	DUPLEX RECEPTACLE TO BE REMOVED (DASHED OR DOTTED LINES INDICATE ITEMS TO BE REMOVED TYPICAL)	UON	UNLESS OTHERWISE NOTED
1	NOTE TAG (No. INDICATES NOTE)	V	VOLTS
X	EQUIPMENT TAG (No. INDICATES TYPE)	W	WIRE
100–4	CIRCUIT IDENTIFIER ON ONE–LINES (REFER TO SCHEDULE)	WP	WEATHERPROOF
		XFMR	TRANSFORMER

LOAD CALCULATION

SERVICE CALCULATION:

EXISTING FACILITY LOADS:	
DEMAND LOAD (CVEA AUGUST, 2017)	705 KW
125% PER NEC 220.87	881 KW
ASSUMED 0.75 PF	1175 KVA
ADDED LOADS:	
PANEL 'HR2'	1033 KVA
PANEL 'GEN'	18 KVA
REMOVED LOADS:	(0) KVA
TOTAL = EXISTING + ADDED – REMOVED:	2226 KVA
AMPERAGE @ 277/480V, 3ø:	2680 A

NEW 3000A, 277/480V, 3ø, 4W SERVICE PROVIDED.

SHORT CIRCUIT CALCULATION SUMMARY

1

FAULT ANALYSIS WAS PERFORMED USING POINT-TO-POINT METHOD.
BELOW ARE THE UTILITY CONTRIBUTION AND EQUIPMENT ASSUMPTIONS:

AVAILABLE FAULT CURRENT AT UTILITY XFMR:	1800	AMPS
TRANSFORMER SIZE:	2500	KVA
TRANSFORMER IMPEDENCE:	5.80	%
SERVICE LATERAL # PARALLEL RUNS:	8	EA.
SERVICE LATERAL SIZE:	#500	KCMIL Cu
SERVICE LATERAL LENGTH:	25	FEET
SERVICE LATERAL CONDUIT TYPE:	PVC	
TOTAL MOTOR CONTRIBUTIONS:	118 AMPS	
AVAILABLE FAULT CURRENT AT MDP:	42529 A RMS (SYM)	

SHEET NOTES:

1 PROVIDE LABEL ON MDP DENOTING AVAILABLE FAULT CURRENT IN ACCORDANCE WITH THE NEC.

STATE OF ALASKA — DAVIN K. BLUBAUGH — EE-13891 — 1/28/19 — REGISTERED PROFESSIONAL ENGINEER

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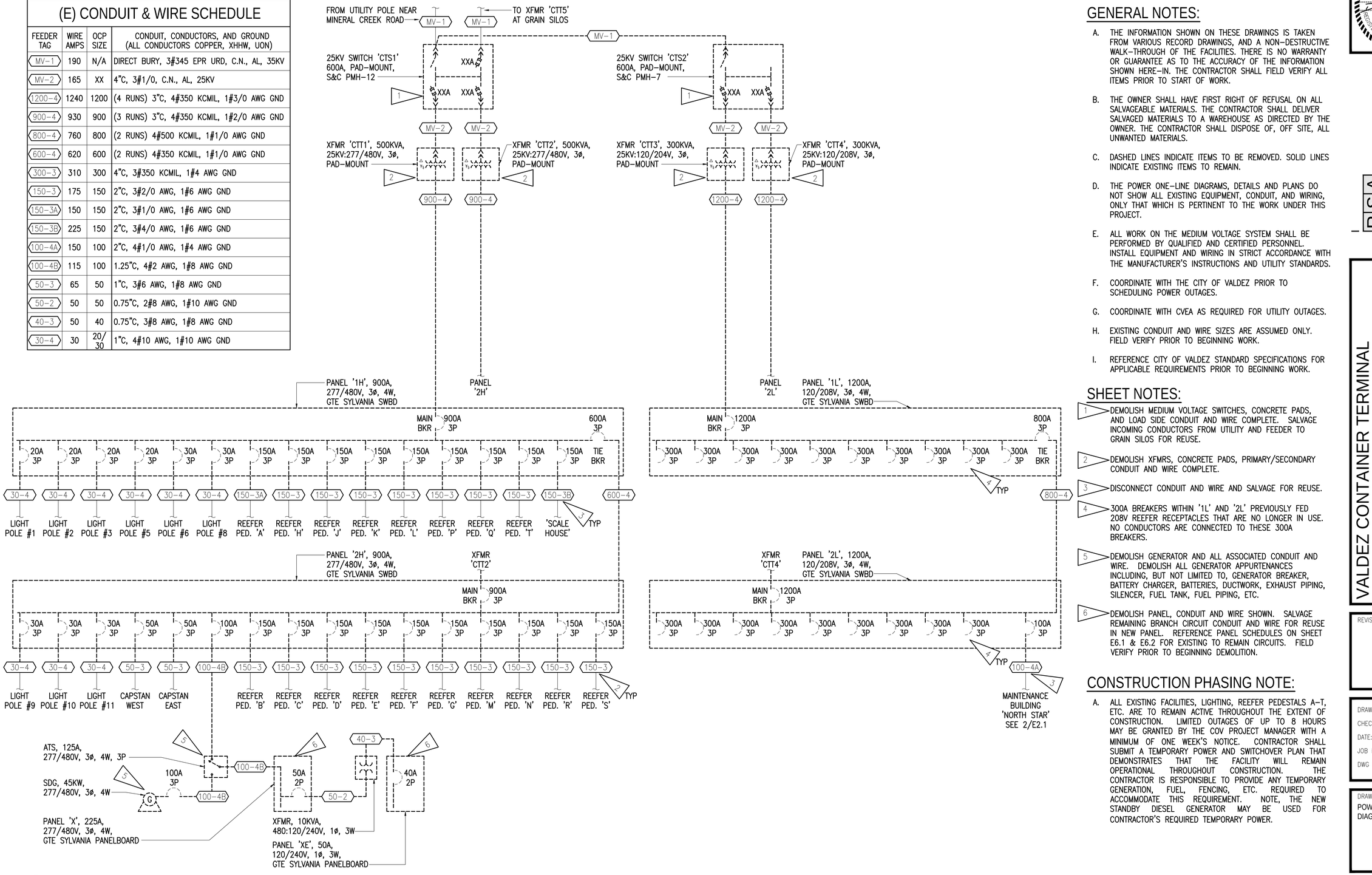
DWG FILE:	L7259 - ESeries

DRAWING TITLE:
LEGEND AND CALCULATIONS

SHEET:
E0.1

(E) CONDUIT & WIRE SCHEDULE

FEEDER TAG	WIRE AMPS	OCP SIZE	CONDUIT, CONDUCTORS, AND GROUND (ALL CONDUCTORS COPPER, XHHW, UON)
MV-1	190	N/A	DIRECT BURY, 3#345 EPR URD, C.N., AL, 35KV
MV-2	165	XX	4"C, 3#1/0, C.N., AL, 25KV
1200-4	1240	1200	(4 RUNS) 3"C, 4#350 KCMIL, 1#3/0 AWG GND
900-4	930	900	(3 RUNS) 3"C, 4#350 KCMIL, 1#2/0 AWG GND
800-4	760	800	(2 RUNS) 4#500 KCMIL, 1#1/0 AWG GND
600-4	620	600	(2 RUNS) 4#350 KCMIL, 1#1/0 AWG GND
300-3	310	300	4"C, 3#350 KCMIL, 1#4 AWG GND
150-3	175	150	2"C, 3#2/0 AWG, 1#6 AWG GND
150-3A	150	150	2"C, 3#1/0 AWG, 1#6 AWG GND
150-3B	225	150	2"C, 3#4/0 AWG, 1#6 AWG GND
100-4A	150	100	2"C, 4#1/0 AWG, 1#4 AWG GND
100-4B	115	100	1.25"C, 4#2 AWG, 1#8 AWG GND
50-3	65	50	1"C, 3#6 AWG, 1#8 AWG GND
50-2	50	50	0.75"C, 2#8 AWG, 1#10 AWG GND
40-3	50	40	0.75"C, 3#8 AWG, 1#8 AWG GND
30-4	30	20/30	1"C, 4#10 AWG, 1#10 AWG GND



1 POWER ONE-LINE DIAGRAM - DEMOLITION
NO SCALE

GENERAL NOTES:

A. THE INFORMATION SHOWN ON THESE DRAWINGS IS TAKEN FROM VARIOUS RECORD DRAWINGS, AND A NON-DESTRUCTIVE WALK-THROUGH OF THE FACILITIES. THERE IS NO WARRANTY OR GUARANTEE AS TO THE ACCURACY OF THE INFORMATION SHOWN HERE-IN. THE CONTRACTOR SHALL FIELD VERIFY ALL ITEMS PRIOR TO START OF WORK.

B. THE OWNER SHALL HAVE FIRST RIGHT OF REFUSAL ON ALL SALVAGEABLE MATERIALS. THE CONTRACTOR SHALL DELIVER SALVAGED MATERIALS TO A WAREHOUSE AS DIRECTED BY THE OWNER. THE CONTRACTOR SHALL DISPOSE OF, OFF SITE, ALL UNWANTED MATERIALS.

C. DASHED LINES INDICATE ITEMS TO BE REMOVED. SOLID LINES INDICATE EXISTING ITEMS TO REMAIN.

D. THE POWER ONE-LINE DIAGRAMS, DETAILS AND PLANS DO NOT SHOW ALL EXISTING EQUIPMENT, CONDUIT, AND WIRING, ONLY THAT WHICH IS PERTINENT TO THE WORK UNDER THIS PROJECT.

E. ALL WORK ON THE MEDIUM VOLTAGE SYSTEM SHALL BE PERFORMED BY QUALIFIED AND CERTIFIED PERSONNEL. INSTALL EQUIPMENT AND WIRING IN STRICT ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS AND UTILITY STANDARDS.

F. COORDINATE WITH THE CITY OF VALDEZ PRIOR TO SCHEDULING POWER OUTAGES.

G. COORDINATE WITH CVEA AS REQUIRED FOR UTILITY OUTAGES.

H. EXISTING CONDUIT AND WIRE SIZES ARE ASSUMED ONLY. FIELD VERIFY PRIOR TO BEGINNING WORK.

I. REFERENCE CITY OF VALDEZ STANDARD SPECIFICATIONS FOR APPLICABLE REQUIREMENTS PRIOR TO BEGINNING WORK.

SHEET NOTES:

1. DEMOLISH MEDIUM VOLTAGE SWITCHES, CONCRETE PADS, AND LOAD SIDE CONDUIT AND WIRE COMPLETE. SALVAGE INCOMING CONDUCTORS FROM UTILITY AND FEEDER TO GRAIN SILOS FOR REUSE.
2. DEMOLISH XFMRS, CONCRETE PADS, PRIMARY/SECONDARY CONDUIT AND WIRE COMPLETE.
3. DISCONNECT CONDUIT AND WIRE AND SALVAGE FOR REUSE.
4. 300A BREAKERS WITHIN '1L' AND '2L' PREVIOUSLY FED 208V REEFER RECEPTACLES THAT ARE NO LONGER IN USE. NO CONDUCTORS ARE CONNECTED TO THESE 300A BREAKERS.
5. DEMOLISH GENERATOR AND ALL ASSOCIATED CONDUIT AND WIRE. DEMOLISH ALL GENERATOR APPURTENANCES INCLUDING, BUT NOT LIMITED TO, GENERATOR BREAKER, BATTERY CHARGER, BATTERIES, DUCTWORK, EXHAUST PIPING, SILENCER, FUEL TANK, FUEL PIPING, ETC.
6. DEMOLISH PANEL, CONDUIT AND WIRE SHOWN. SALVAGE REMAINING BRANCH CIRCUIT CONDUIT AND WIRE FOR REUSE IN NEW PANEL. REFERENCE PANEL SCHEDULES ON SHEET E6.1 & E6.2 FOR EXISTING TO REMAIN CIRCUITS. FIELD VERIFY PRIOR TO BEGINNING DEMOLITION.

CONSTRUCTION PHASING NOTE:

A. ALL EXISTING FACILITIES, LIGHTING, REEFER PEDESTALS A-T, ETC. ARE TO REMAIN ACTIVE THROUGHOUT THE EXTENT OF CONSTRUCTION. LIMITED OUTAGES OF UP TO 8 HOURS MAY BE GRANTED BY THE COV PROJECT MANAGER WITH A MINIMUM OF ONE WEEK'S NOTICE. CONTRACTOR SHALL SUBMIT A TEMPORARY POWER AND SWITCHOVER PLAN THAT DEMONSTRATES THAT THE FACILITY WILL REMAIN OPERATIONAL THROUGHOUT CONSTRUCTION. THE CONTRACTOR IS RESPONSIBLE TO PROVIDE ANY TEMPORARY GENERATION, FUEL, FENCING, ETC. REQUIRED TO ACCOMMODATE THIS REQUIREMENT. NOTE, THE NEW STANDBY DIESEL GENERATOR MAY BE USED FOR CONTRACTOR'S REQUIRED TEMPORARY POWER.

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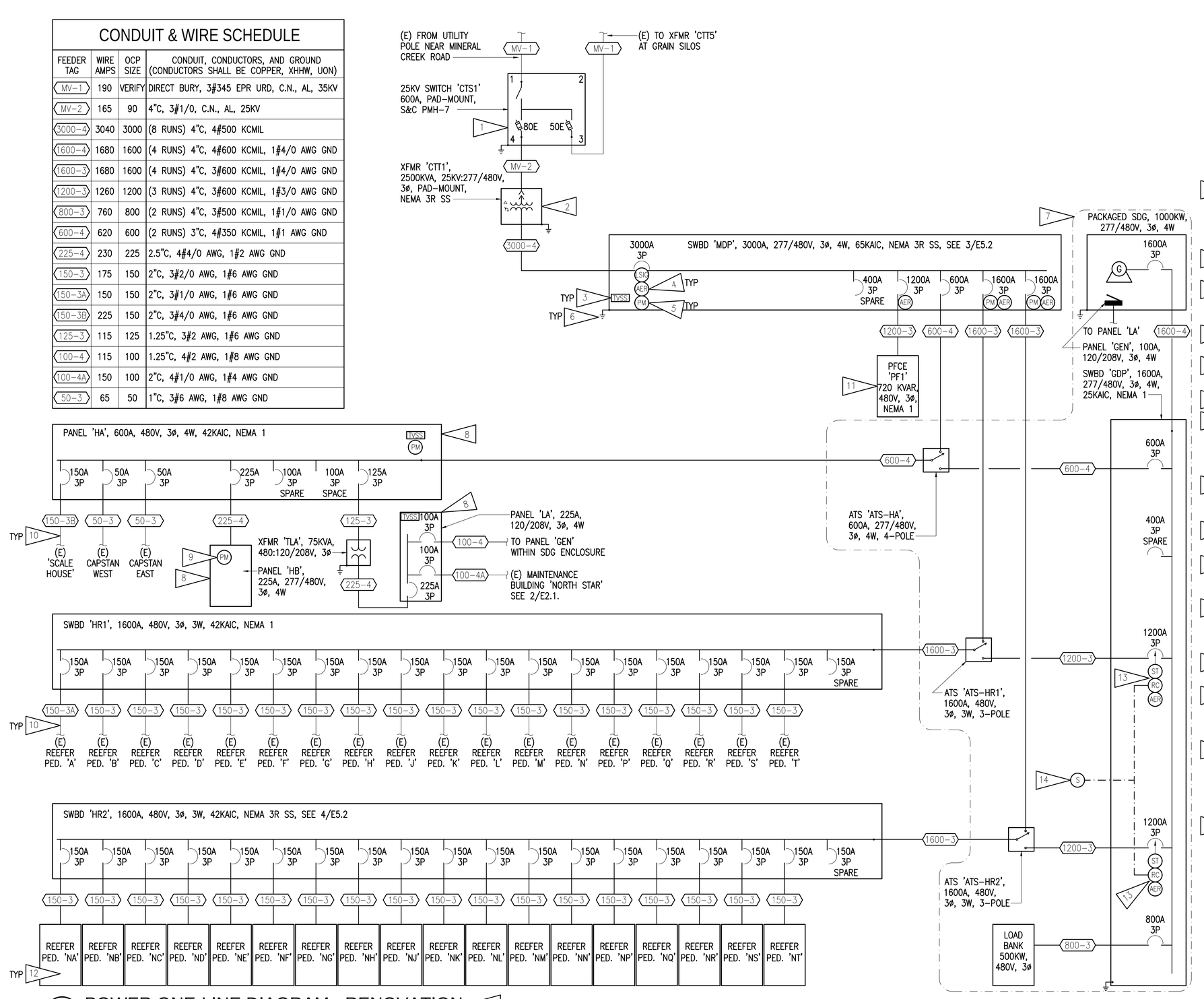
DRAWING TITLE:
POWER ONE-LINE DIAGRAM - DEMOLITION

SHEET:
E0.2

CONDUIT & WIRE SCHEDULE

FEEDER TAG	WIRE AMPS	OCP SIZE	CONDUIT, CONDUCTORS, AND GROUND (CONDUCTORS SHALL BE COPPER, XHHW, UON)
MV-1	190	VERIFY	DIRECT BURY, 3#345 EPR URD, C.N., AL, 35KV
MV-2	165	90	4"C, 3#1/0, C.N., AL, 25KV
3000-4	3040	3000	(8 RUNS) 4"C, 4#500 KCMIL
1600-4	1680	1600	(4 RUNS) 4"C, 4#600 KCMIL, 1#4/0 AWG GND
1600-3	1680	1600	(4 RUNS) 4"C, 3#600 KCMIL, 1#4/0 AWG GND
1200-3	1260	1200	(3 RUNS) 4"C, 3#600 KCMIL, 1#3/0 AWG GND
800-3	760	800	(2 RUNS) 4"C, 3#500 KCMIL, 1#1/0 AWG GND
600-4	620	600	(2 RUNS) 3"C, 4#350 KCMIL, 1#1 AWG GND
225-4	230	225	2.5"C, 4#4/0 AWG, 1#2 AWG GND
150-3	175	150	2"C, 3#2/0 AWG, 1#6 AWG GND
150-3A	150	150	2"C, 3#1/0 AWG, 1#6 AWG GND
150-3B	225	150	2"C, 3#4/0 AWG, 1#6 AWG GND
125-3	115	125	1.25"C, 3#2 AWG, 1#6 AWG GND
100-4	115	100	1.25"C, 4#2 AWG, 1#8 AWG GND
100-4A	150	100	2"C, 4#1/0 AWG, 1#4 AWG GND
50-3	65	50	1"C, 3#6 AWG, 1#8 AWG GND



1 POWER ONE-LINE DIAGRAM - RENOVATION
NO SCALE

GENERAL NOTES:

A. SEE GENERAL NOTES ON E0.2.

B. PROVIDE ARC-FLASH STUDY AND CORRESPONDING LABELS FOR ALL NEW ELECTRICAL DISTRIBUTION EQUIPMENT PROVIDED UNDER THIS PROJECT. REFERENCE SPECIFICATION SECTION 260573.

C. REFERENCE PANEL SCHEDULES ON SHEET E6.1 AND E6.2 FOR ADDITIONAL PANEL RATINGS AND REQUIREMENTS.

SHEET NOTES:

1. RECONNECT SALVAGED UTILITY FEEDER AND 'CTT5' FEEDER TO NEW SWITCH. FUSES SHALL BE S&C #SM-20 OR EQUAL. FIELD VERIFY EXISTING FUSE SIZE FEEDING 'CTT5' PRIOR TO PURCHASE. SEE 3&4/E5.1 FOR MEDIUM VOLTAGE SWITCH DETAILS AND REQUIREMENTS.
2. SEE 5&6/E5.1 FOR MEDIUM VOLTAGE TRANSFORMER DETAILS AND REQUIREMENTS.
3. PROVIDE TVSS FOR EQUIPMENT SHOWN. TVSS SHALL BE INSTALLED BY THE EQUIPMENT MANUFACTURER INTEGRAL TO THE EQUIPMENT.
4. PROVIDE EQUIPMENT/BREAKER WITH ARC-FLASH ENERGY REDUCTION SWITCH INTEGRAL TO EQUIPMENT BY MANUFACTURER.
5. PROVIDE EQUIPMENT AND FEEDERS SHOWN WITH POWER MONITOR INTEGRAL TO EQUIPMENT BY MANUFACTURER.
6. SEE 1/E5.1 FOR GROUNDING DETAILS AND REQUIREMENTS.
7. NEW PACKAGED SDG SHALL BE PROVIDED WITH ALL COMPONENTS AND ACCESSORIES SHOWN WITHIN DASHED AND DOTTED LINE, AS SHOWN ON 1/E3.3, AND AS REQUIRED WITHIN SPECIFICATION 26 32 00. ALL COMPONENTS SHALL BE PRE-INSTALLED AND WIRED BY THE SUPPLIER OF THE PACKAGED SDG.
8. REFERENCE PANEL SCHEDULES ON SHEET E6.1 & E6.2 FOR ADDITIONAL INFORMATION AND REQUIREMENTS REGARDING (E) BRANCH CIRCUITS CONNECTED TO NEW PANEL.
9. PROVIDE LABEL ON OR NEAR METER THAT STATES "SITE LIGHTING METER".
10. RECONNECT (E) SALVAGED CONDUIT AND WIRE TO NEW EQUIPMENT. PROVIDE JUNCTION BOXES AND SPLICE KITS AS REQUIRED TO EXTEND (E) CONDUIT AND WIRE TO NEW EQUIPMENT.
11. PROVIDE ALL COMPONENTS AND INTERCONNECTING WIRING FOR NEW POWER FACTOR CORRECTION EQUIPMENT AS REQUIRED BY THE MANUFACTURER FOR PROPER INSTALLATION AND AS REQUIRED WITHIN SPECIFICATION 26 35 33.
12. SEE 1&2/E5.2 FOR REEFER PEDESTAL DETAILS AND REQUIREMENTS.
13. PROVIDE BREAKERS NOTED WITH SHUNT TRIP AND ELECTRONIC REMOTE CLOSE FUNCTIONS FOR USE WITH SELECTOR SWITCH. REFERENCE NOTE 14. BREAKER FUNCTIONS SHALL BE 120V POWERED FROM PANEL 'GEN'.
14. PROVIDE 3-POSITION SELECTOR SWITCH AND CONNECT TO OPERATE THE SHUNT TRIP AND REMOTE CLOSE BREAKER FUNCTIONS DESCRIBED IN NOTE 13 ABOVE. SELECTOR SWITCH SHALL ONLY ALLOW ONE OF THE TWO REEFER VAN SWITCHBOARDS 'HR1' OR 'HR2' TO BE POWERED FROM THE GENERATOR AT ANY GIVEN TIME. SEE 5/E5.2 FOR DETAILS.
15. PROVIDE ARC-FLASH STUDY AND CORRESPONDING LABELS FOR ALL NEW ELECTRICAL DISTRIBUTION EQUIPMENT. REFERENCE SPECIFICATION SECTION 260573.

CONSTRUCTION PHASING NOTE:

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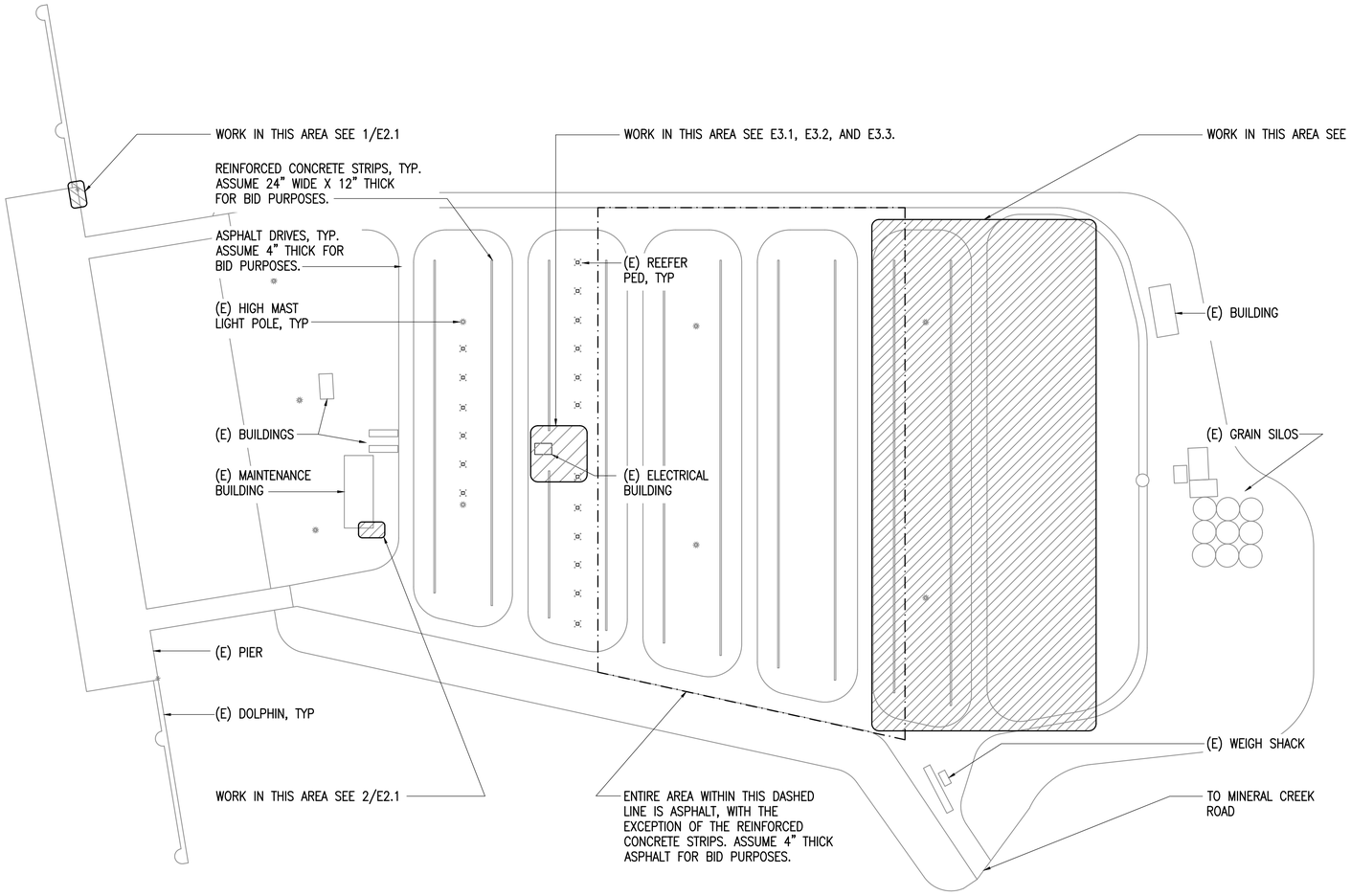
POWER ONE-LINE DIAGRAM - RENOVATION

SHEET:
E0.3



1 SITE REFERENCE PLAN
1" = 100'

GENERAL NOTES:

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E. ALL WORK ON THE MEDIUM VOLTAGE SYSTEM SHALL BE PERFORMED BY LICENSED AND QUALIFIED PERSONNEL. INSTALL EQUIPMENT AND WIRING IN STRICT ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS AND UTILITY STANDARDS.

F. COORDINATE WITH THE CITY OF VALDEZ PRIOR TO SCHEDULING POWER OUTAGES.

G. COORDINATE WITH CVEA AS REQUIRED FOR UTILITY OUTAGES.

H. EXISTING CONDUIT AND WIRE SIZES ARE ASSUMED ONLY. FIELD VERIFY PRIOR TO BEGINNING WORK.

I. PROVIDE CONCRETE HOUSEKEEPING PADS/VAULTS FOR EQUIPMENT AS SHOWN AND/OR NOTED ON THE DRAWINGS. HOUSEKEEPING PAD/VAULT DESIGN AND EQUIPMENT ANCHORING DESIGN SHALL BE PROVIDED BY THE CONTRACTOR IN ACCORDANCE WITH SPECIFICATION 26 05 48.

J. REFERENCE CITY OF VALDEZ STANDARD SPECIFICATIONS FOR APPLICABLE REQUIREMENTS PRIOR TO BEGINNING WORK. NAMELY EXCAVATION, BACKFILL, CONCRETE, BOLLARDS, ETC.

K. REFERENCE THE ONE–LINE DIAGRAMS ON 1/E0.2 AND 1/E0.3 FOR ADDITIONAL INFORMATION AND REQUIREMENTS.

L. BACKFILL AND COMPACT ALL AREAS WITH DEMOLISHED CONCRETE PADS, VAULTS, ETC. NOTE, THIS MAY REQUIRE FILL MATERIAL NOT AVAILABLE ONSITE.

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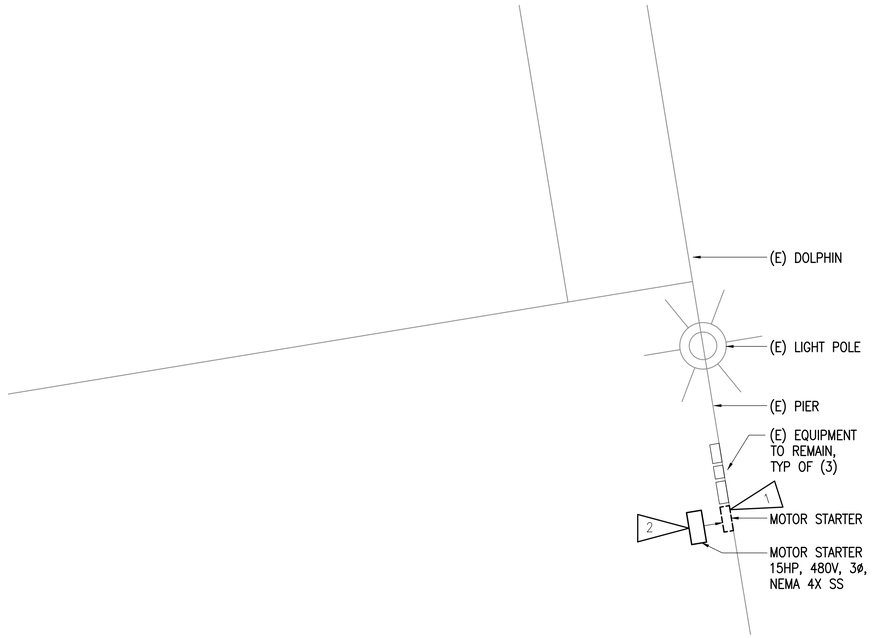
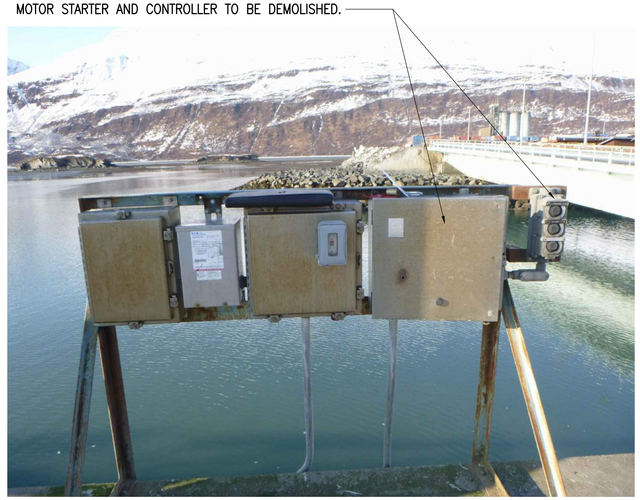
SITE REFERENCE PLAN

SHEET:
E1.1

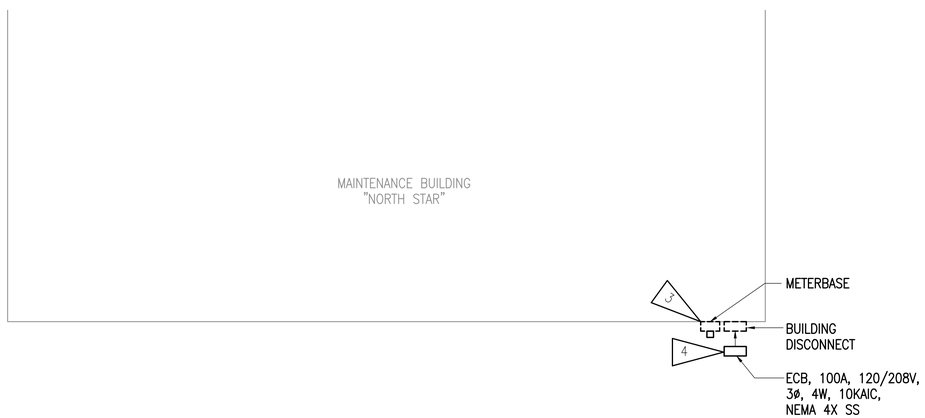


1 PIER AREA ENLARGED PLAN

1/4" = 1'-0"



1A PIER AREA REFERENCE PHOTO



2 MAINTENANCE BUILDING ENLARGED PLAN

1/4" = 1'-0"

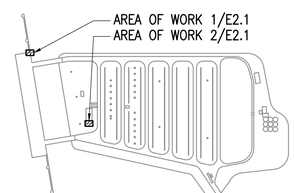
2A MAINTENANCE BUILDING REFERENCE PHOTO

GENERAL NOTES:

A. SEE GENERAL NOTES ON E1.1.

SHEET NOTES:

1. DEMOLISH MOTOR STARTER AND ADJACENT FORWARD/REVERSE CONTROLLER. SALVAGE LINE AND LOAD CONDUIT AND WIRE FOR REUSE WITH NEW MOTOR STARTER IN SAME LOCATION.
2. PROVIDE NEW MOTOR STARTER AND RECONNECT SALVAGED CONDUIT AND WIRE. PROVIDE JUNCTION BOX AND EXTEND CONDUIT AND WIRE AS REQUIRED TO ACCOMMODATE NEW AND EXISTING EQUIPMENT. MODIFY EXISTING SUPPORTS AND/OR PROVIDE NEW SUPPORTS AS REQUIRED TO ACCOMMODATE NEW MOTOR STARTER. NEW MOTOR STARTER SHALL BE 7.5HP, 480V, 3ø, FORWARD/REVERSING TYPE WITHIN NEMA 4X STAINLESS STEEL ENCLOSURE. PROVIDE FORWARD/REVERSE/STOP PUSHBUTTONS WITHIN FRONT COVER.
3. DEMOLISH METERBASE AND BUILDING DISCONNECT. SALVAGE CONDUIT AND WIRE FOR REUSE WITH NEW DISCONNECT IN SAME LOCATION. REFERENCE ONE-LINE DIAGRAMS FOR EXISTING FEEDER SIZE.
4. PROVIDE NEW BUILDING DISCONNECT AND RECONNECT SALVAGED CONDUIT AND WIRE. PROVIDE JUNCTION BOX AND EXTEND CONDUIT AND WIRE AS REQUIRED TO ACCOMMODATE NEW AND EXISTING EQUIPMENT. REFERENCE ONE-LINE DIAGRAMS FOR EXISTING FEEDER SIZE.



KEY PLAN

NO SCALE

RSA Engineering, Inc.
MECHANICAL AND ELECTRICAL CONSULTING ENGINEERS
6700 West Raspberry Lane, Suite 200
Anchorage, AK 99503
Phone (907) 276-0521
Corporate No.: AECC542

VALDEZ CONTAINER TERMINAL
ELECTRICAL UPGRADES

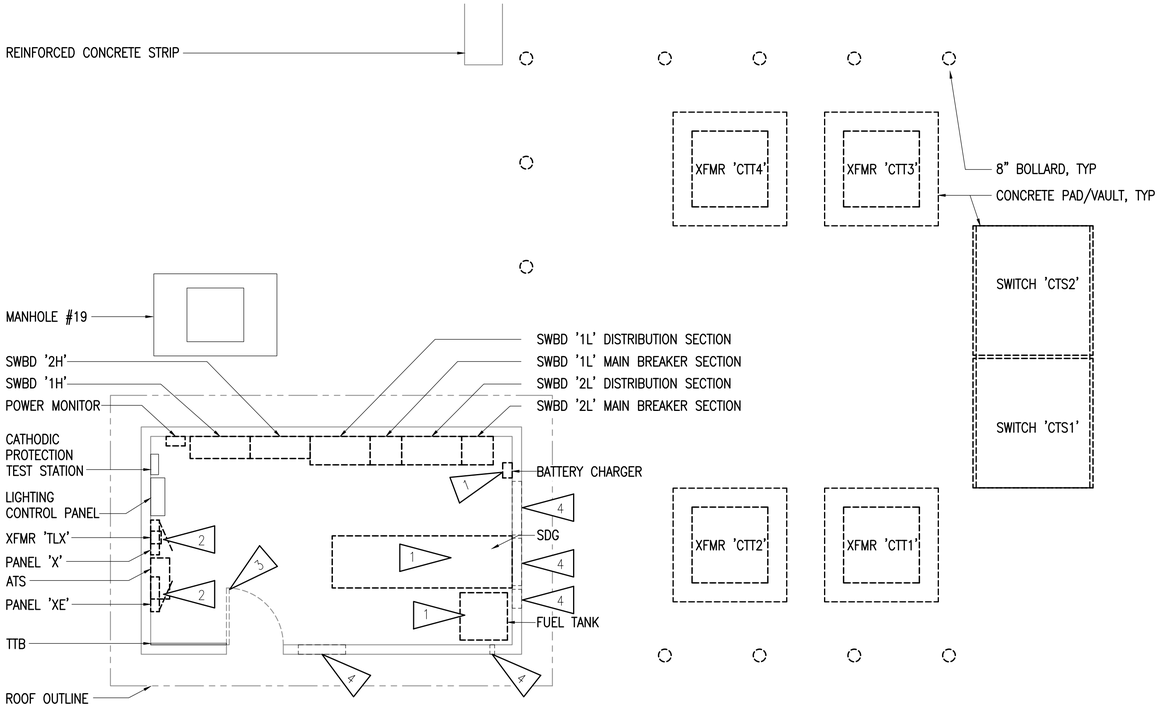
CITY OF VALDEZ
P.O. BOX 307
VALDEZ, AK 99686

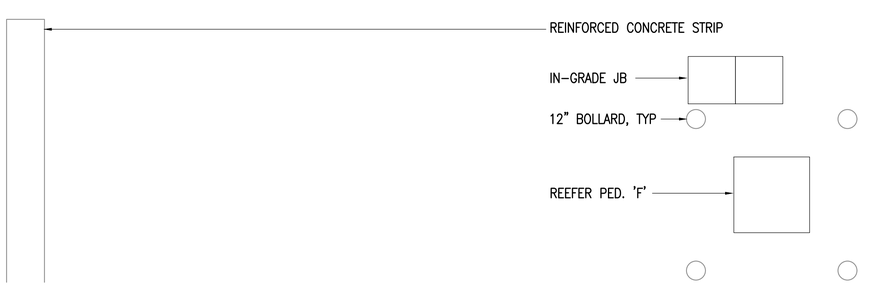
REVISIONS:

DRAWN BY:	DB
CHECKED BY:	DB
DATE:	01/28/2019
JOB NUMBER:	L7259
DWG FILE:	L7259 - ESeries

DRAWING TITLE:
PIER AREA AND MAINTENANCE BUILDING ENLARGED PLANS

SHEET:
E2.1





1 ELECTRICAL BUILDING DEMOLITION PLAN
1/4" = 1'-0"

GENERAL NOTES:

A. SEE GENERAL NOTES ON E1.1.

SHEET NOTES:

1. DEMOLISH GENERATOR AND ALL ASSOCIATED CONDUIT AND WIRE. DEMOLISH ALL GENERATOR APPURTENANCES INCLUDING, BUT NOT LIMITED TO, GENERATOR BREAKER, BATTERY CHARGER, BATTERIES, DUCTWORK, EXHAUST PIPING, SILENCER, FUEL TANK, FUEL PIPING, ETC.
2. DEMOLISH PANEL, CONDUIT AND WIRE SHOWN. SALVAGE REMAINING BRANCH CIRCUIT CONDUIT AND WIRE FOR REUSE IN NEW PANEL. REFERENCE PANEL SCHEDULES ON SHEET E6.1 AND E6.2 FOR EXISTING TO REMAIN CIRCUITS. FIELD VERIFY PRIOR TO BEGINNING DEMOLITION.
3. DEMOLISH DOOR. SALVAGE DOOR FRAMING, TRIM, ETC. FOR REUSE WITH NEW DOOR IN SAME LOCATION.
4. DEMOLISH ALL GENERATOR RELATED LOUVERS AND PENETRATIONS. REPAIR WALLS TO MATCH EXISTING CONSTRUCTION. FOR BIDDING PURPOSES ASSUME WALLS ARE 6" WOOD FRAMED, WITH BATT INSULATION, 5/8" PAINTED DRYWALL INTERIOR, VAPOR BARRIER, 1/2" PLYWOOD SHEATHING, WEATHERBARRIER, AND 1/4"x4" PAINTED WOOD TRIM EXTERIOR. FIELD VERIFY PRIOR TO BEGINNING WORK. BUILDING PENETRATIONS REQUIRING TO BE DEMOLISHED AND SEALED ARE AS FOLLOWS:
   - (1) 34"x60" INTAKE AIR LOUVER
   - (1) 30"x60" DISCHARGE AIR LOUVER
   - (1) 30"x60" INTAKE AIR LOUVER
   - (1) 12"x12" INSULATED EXHAUST PIPING PENETRATION
   - (1) 3"ø FUEL TANK VENT PENETRATION

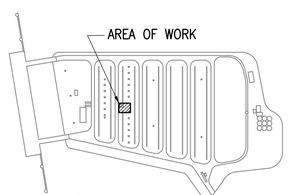
CONSTRUCTION PHASING NOTE:

A. ALL EXISTING FACILITIES, LIGHTING, REEFER PEDESTALS A–T, ETC. ARE TO REMAIN ACTIVE THROUGHOUT THE EXTENT OF CONSTRUCTION. LIMITED OUTAGES OF UP TO 8 HOURS MAY BE GRANTED BY THE COV PROJECT MANAGER WITH A MINIMUM OF ONE WEEK'S NOTICE. CONTRACTOR SHALL SUBMIT A TEMPORARY POWER AND SWITCHOVER PLAN THAT DEMONSTRATES THAT THE FACILITY WILL REMAIN OPERATIONAL THROUGHOUT CONSTRUCTION. THE CONTRACTOR IS RESPONSIBLE TO PROVIDE ANY TEMPORARY GENERATION, FUEL, FENCING, ETC. REQUIRED TO ACCOMMODATE THIS REQUIREMENT. NOTE, THE NEW STANDBY DIESEL GENERATOR MAY BE USED FOR CONTRACTOR'S REQUIRED TEMPORARY POWER.

CALL BEFORE YOU DIG

THE CONTRACTOR SHALL NOTIFY ALL AREA UTILITY COMPANIES PRIOR TO COMMENCEMENT OF EXCAVATION. THE FOLLOWING IS A PARTIAL LIST:

LOCATE CALL CENTER OF ALASKA	278–3121
COPPER VALLEY ELECTRIC ASSOCIATION	811



KEY PLAN
NO SCALE

STATE OF ALASKA — DAVIN K. BLUBAUGH — EE-13891 — 1/28/19 — REGISTERED PROFESSIONAL ENGINEER

RSA Engineering, Inc.
MECHANICAL AND ELECTRICAL CONSULTING ENGINEERS
6700 West Tidewind Lane, Suite 200
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VALDEZ CONTAINER TERMINAL
ELECTRICAL UPGRADES

CITY OF VALDEZ
P.O. BOX 307
VALDEZ, AK 99686

REVISIONS:

DRAWN BY:	DB
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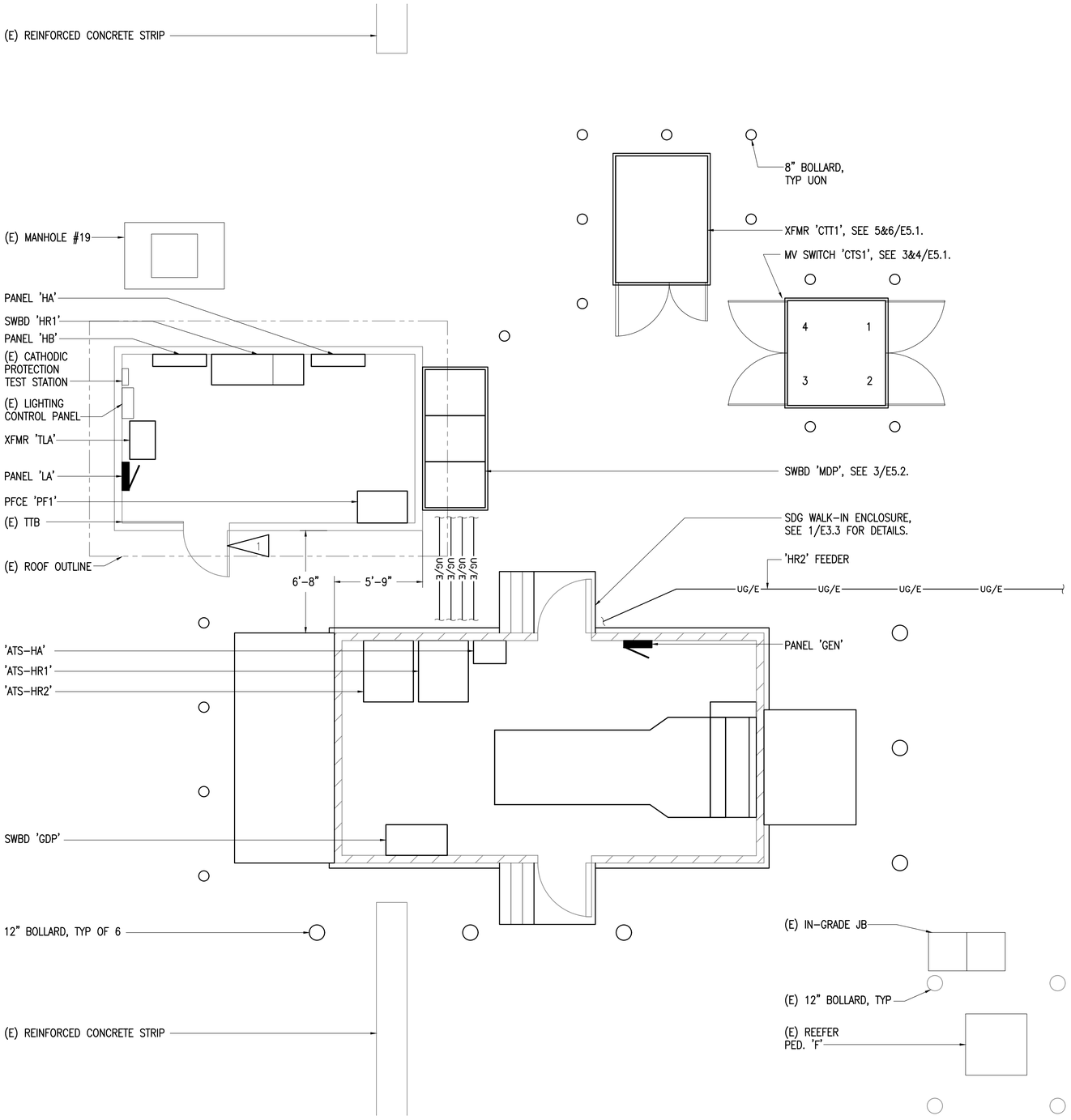
DWG FILE:	L7259 - ESeries

DRAWING TITLE:
ELECTRICAL BUILDING DEMOLITION PLAN

SHEET:
E3.1



1 ELECTRICAL BUILDING RENOVATION PLAN
1/4" = 1'-0"

GENERAL NOTES:

A. SEE GENERAL NOTES ON E1.1.

B. SEE 2/E5.1 FOR TRENCHING REQUIREMENTS. UNDERGROUND CONDUIT ROUTING SHOWN IS APPROXIMATE ONLY. ACTUAL ROUTING AND ANY REQUIRED IN-GRADE JUNCTION BOXES SHALL BE DETERMINED BY THE CONTRACTOR IN ACCORDANCE WITH THE NEC.

C. PROVIDE JUNCTION BOXES, CONDUIT AND WIRE AS REQUIRED TO EXTEND EXISTING TO REMAIN CIRCUITS FROM DEMOLISHED PANEL LOCATIONS TO NEW PANELS. REFERENCE THE ONE-LINES ON E0.2 AND E0.3 AND THE PANEL SCHEDULES ON E6.1 AND E6.2 FOR ADDITIONAL INFORMATION.

SHEET NOTES:

1. PROVIDE NEW EXTERIOR DOOR. INSTALL TO SWING OUTWARD AS SHOWN PER NEC REQUIREMENTS. DOOR SHALL BE INSULATED HOLLOW METAL TYPE, 36"x6'-8" (FIELD VERIFY), WITH LISTED PANIC HARDWARE AND CYLINDRICAL KEYED LOCKSET.

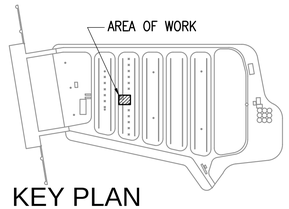
CONSTRUCTION PHASING NOTE:

A. ALL EXISTING FACILITIES, LIGHTING, REEFER PEDESTALS A-T, ETC. ARE TO REMAIN ACTIVE THROUGHOUT THE EXTENT OF CONSTRUCTION. LIMITED OUTAGES OF UP TO 8 HOURS MAY BE GRANTED BY THE COV PROJECT MANAGER WITH A MINIMUM OF ONE WEEK'S NOTICE. CONTRACTOR SHALL SUBMIT A TEMPORARY POWER AND SWITCHOVER PLAN THAT DEMONSTRATES THAT THE FACILITY WILL REMAIN OPERATIONAL THROUGHOUT CONSTRUCTION. THE CONTRACTOR IS RESPONSIBLE TO PROVIDE ANY TEMPORARY GENERATION, FUEL, FENCING, ETC. REQUIRED TO ACCOMMODATE THIS REQUIREMENT. NOTE, THE NEW STANDBY DIESEL GENERATOR MAY BE USED FOR CONTRACTOR'S REQUIRED TEMPORARY POWER.

CALL BEFORE YOU DIG

THE CONTRACTOR SHALL NOTIFY ALL AREA UTILITY COMPANIES PRIOR TO COMMENCEMENT OF EXCAVATION. THE FOLLOWING IS A PARTIAL LIST:

LOCATE CALL CENTER OF ALASKA	278-3121
COPPER VALLEY ELECTRIC ASSOCIATION	811



KEY PLAN
NO SCALE

STATE OF ALASKA
DAVIN K. BLUBAUGH
EE-13891
1/28/19
REGISTERED PROFESSIONAL ENGINEER

RSA Engineering, Inc.
MECHANICAL AND ELECTRICAL CONSULTING ENGINEERS
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VALDEZ CONTAINER TERMINAL
ELECTRICAL UPGRADES

CITY OF VALDEZ
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VALDEZ, AK 99686

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DWG FILE:	L7259 - ESeries

DRAWING TITLE:
ELECTRICAL BUILDING RENOVATION PLAN

SHEET:
E3.2

SDG WALK-IN ENCLOSURE EQUIPMENT SCHEDULE (1)

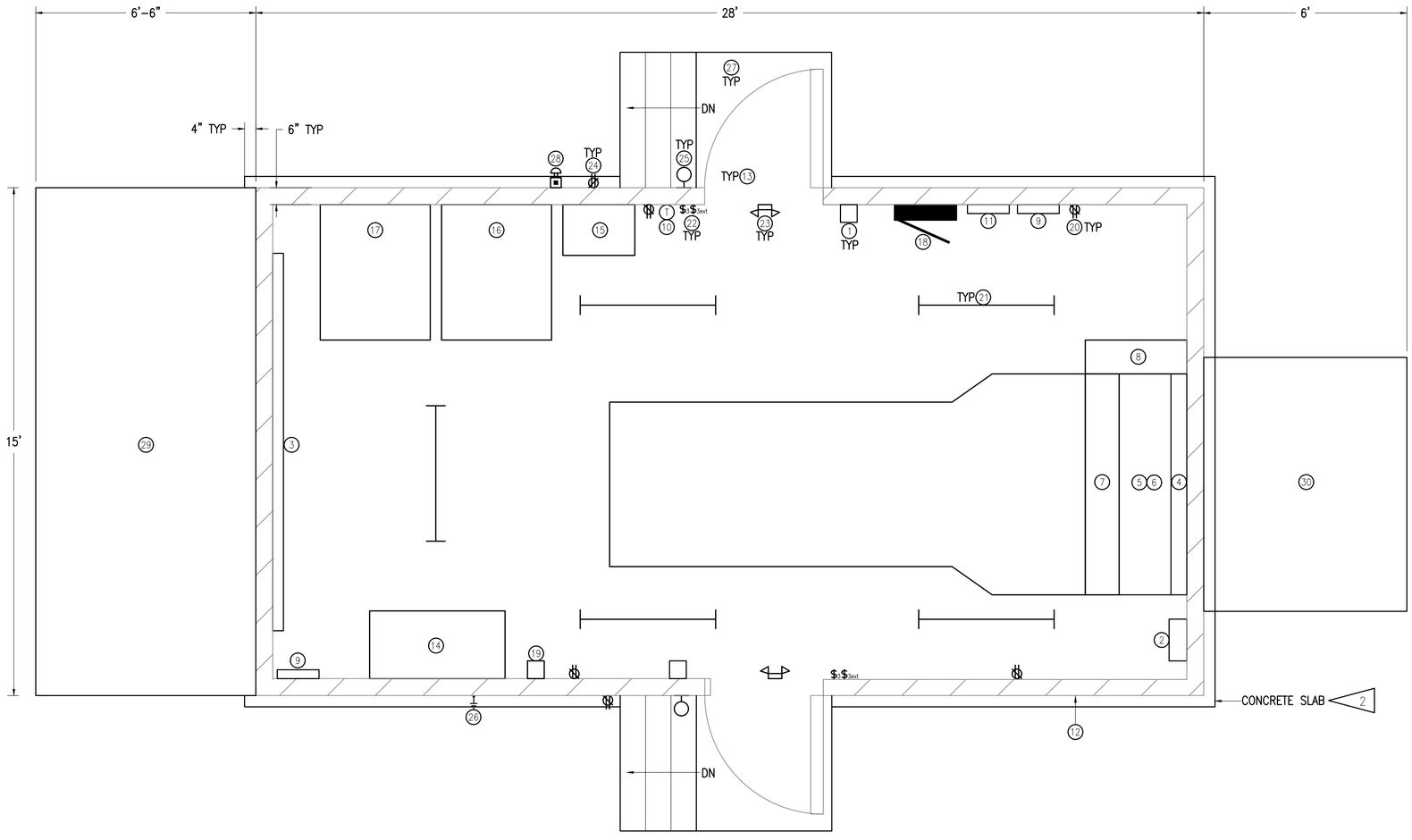
ITEM	QTY	ITEM DESCRIPTION	ITEM	QTY	ITEM DESCRIPTION			
1	2	20LB FIRE EXTINGUISHER	11	1	HEATING & VENTILATION CONTROL PANEL	21	5	INTERIOR LED LIGHT
2	1	BATTERY CHARGER	12	1	36 HOUR SUB BASE FUEL TANK	22	4	3-WAY SWITCHES FOR INTERIOR AND EXTERIOR LIGHTS
3	1	INSULATED INTAKE DAMPER WITH MOTOR (POWER OPEN, SPRING CLOSE)	13	2	42" WIDE ENTRY DOOR WITH INTERIOR PANIC BAR	23	2	INTERIOR DUAL-HEAD EMERGENCY LIGHT
4	1	INSULATED DISCHARGE DAMPER WITH MOTOR (POWER OPEN, SPRING CLOSE)	14	1	SWBD 'GDP', SEE 1/E0.3.	24	2	WP EXTERIOR GFCI RECEPTACLE WITH IN-USE COVER
5	1	NON-INSULATED RECIRCULATION DAMPER WITH MOTOR (POWER OPEN, SPRING CLOSE)	15	1	AUTOMATIC TRANSFER SWITCH 'ATS-HA', SEE 1/E0.3.	25	2	EXTERIOR LED LIGHT
6	1	RECIRCULATION PLENUM	16	1	AUTOMATIC TRANSFER SWITCH 'ATS-HR1', SEE 1/E0.3.	26	1	EXTERIOR GROUNDING LUG
7	1	AUTOMATIC LOAD BANK, SEE 1/E0.3	17	1	AUTOMATIC TRANSFER SWITCH 'ATS-HR2', SEE 1/E0.3.	27	2	ENTRY STAIRS AND LANDING
8	1	LOAD BANK CONTROLLER	18	1	PANEL 'GEN', SEE 1/E0.3.	28	1	WP EMERGENCY STOP PUSH BUTTON
9	2	WALL MOUNTED HEATER, 4.5KW, 208V, 1ø	19	1	SELECTOR SWITCH, SEE 1/E0.3 & 5/E5.2.	29	1	INTAKE HOOD WITH BIRD SCREEN
10	1	THERMOSTAT	20	4	INTERIOR GFCI RECEPTACLES	30	1	DISCHARGE HOOD WITH BIRD SCREEN

GENERAL NOTES:

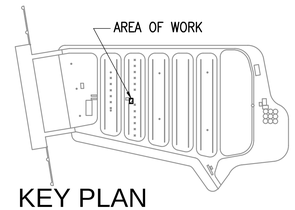
A. SEE E1.1 FOR GENERAL NOTES.

SHEET NOTES:

1. NEW PACKAGED SDG SHALL BE PROVIDED WITH ALL COMPONENTS AND ACCESSORIES SHOWN AND AS REQUIRED WITHIN SPECIFICATION 26 32 00. ALL COMPONENTS SHALL BE PRE-INSTALLED AND WIRED BY THE SUPPLIER OF THE PACKAGED SDG.
2. PROVIDE CONCRETE FOUNDATION BELOW PACKAGED SDG. PAD AND EQUIPMENT ANCHORING DESIGN SHALL BE PROVIDED BY THE CONTRACTOR IN ACCORDANCE WITH SPECIFICATION 26 05 48.



1 ENLARGED SDG ENCLOSURE DETAILS
1/2" = 1'-0"



KEY PLAN
NO SCALE

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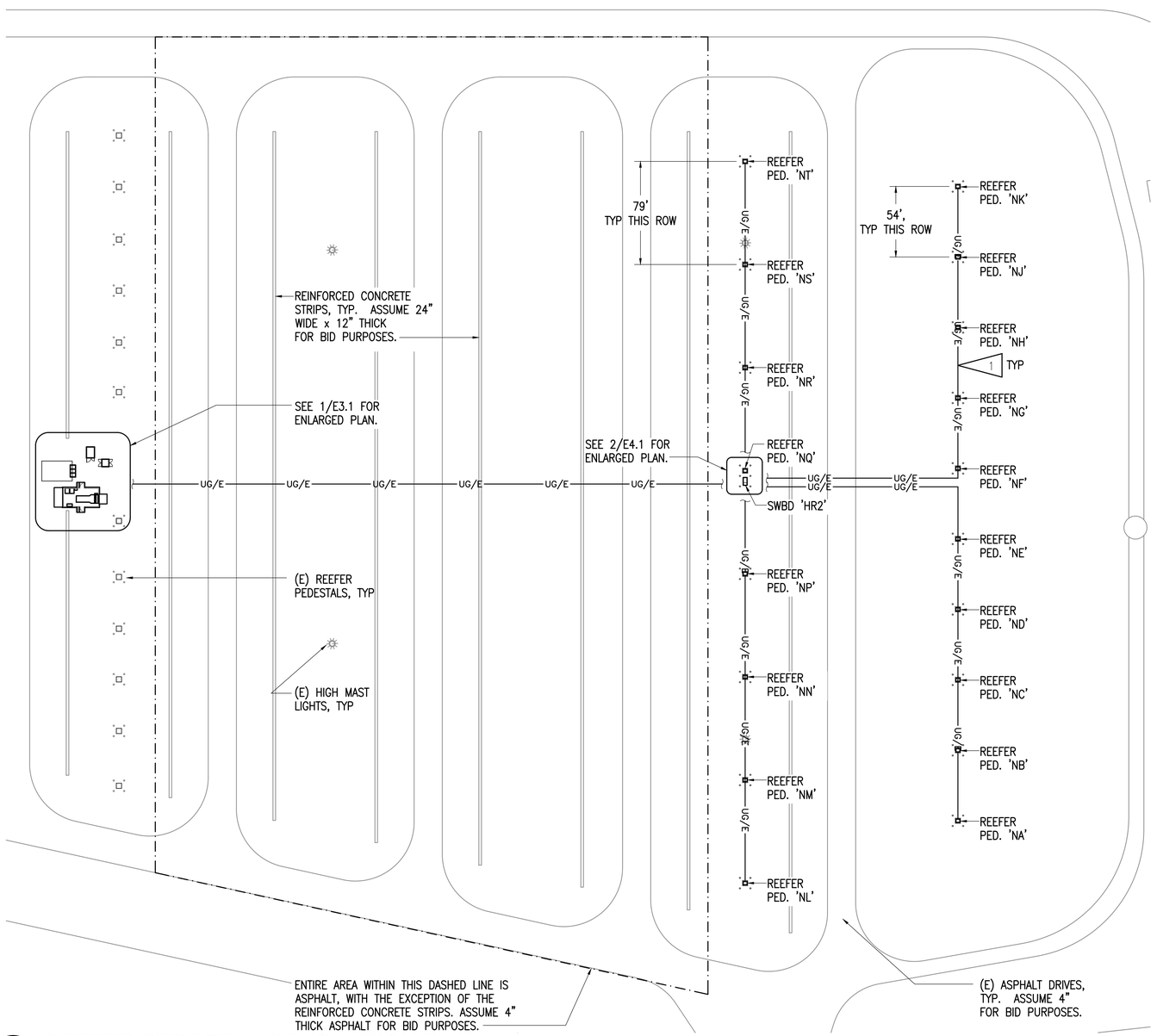
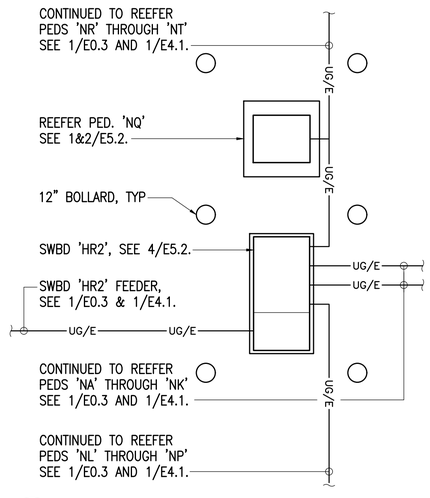
DRAWING TITLE:
ENLARGED SDG ENCLOSURE PLAN

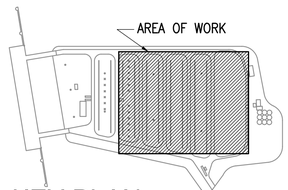
SHEET:
E3.3



1 REEFER PEDESTAL RENOVATION PLAN
1" = 50'-0"



2 ENLARGED PLAN
1/4" = 1'-0"



KEY PLAN
NO SCALE

GENERAL NOTES:

A. SEE GENERAL NOTES ON E1.1.

B. SEE 2/E5.1 FOR TRENCHING REQUIREMENTS. UNDERGROUND CONDUIT ROUTING SHOWN IS APPROXIMATE ONLY. ACTUAL ROUTING AND ANY REQUIRED IN-GRADE JUNCTION BOXES SHALL BE DETERMINED BY THE CONTRACTOR IN ACCORDANCE WITH THE NEC.

SHEET NOTES:

1 FIELD ROUTE CONDUIT AND WIRE FROM SWBD 'HR2' TO EACH REEFER PEDESTAL. SEE SHEET 5.2 FOR DETAILS.

CALL BEFORE YOU DIG

THE CONTRACTOR SHALL NOTIFY ALL AREA UTILITY COMPANIES PRIOR TO COMMENCEMENT OF EXCAVATION. THE FOLLOWING IS A PARTIAL LIST:

LOCATE CALL CENTER OF ALASKA	278-3121
COPPER VALLEY ELECTRIC ASSOCIATION	811

STATE OF ALASKA — DAVIN K. BLUBAUGH — EE-13891 — 1/28/19 — REGISTERED PROFESSIONAL ENGINEER

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VALDEZ CONTAINER TERMINAL
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CITY OF VALDEZ
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VALDEZ, AK 99686

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DWG FILE:	L7259 - ESeries

DRAWING TITLE:
REEFER PEDESTAL RENOVATION PLANS

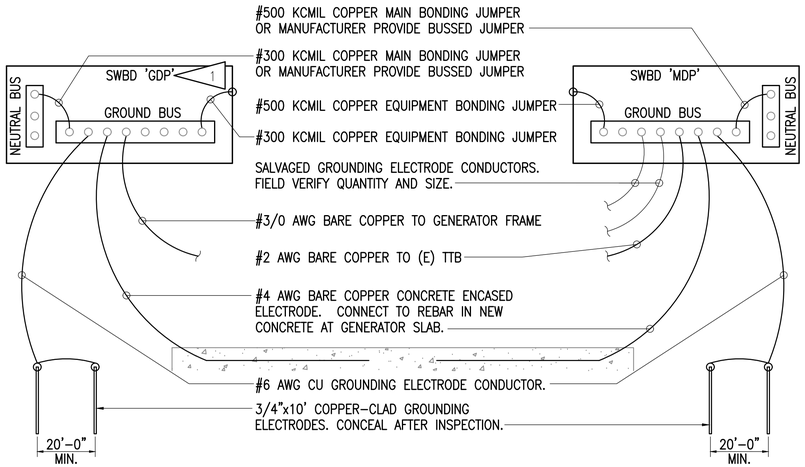
SHEET:
E4.1

GENERAL NOTES:

A. SEE GENERAL NOTES ON E1.1.

SHEET NOTES:

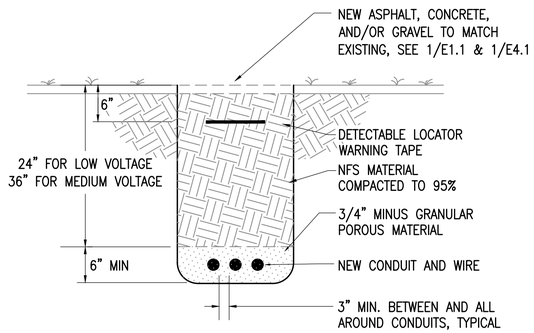
1. NEW GENERATOR SHALL BE CONSIDERED A SEPARATELY DERIVED SYSTEM. BOND NEUTRAL TO GROUND AT 'GDP', NOT AT GENERATOR TERMINALS.
2. CONCRETE VAULT DIMENSIONS SHOWN ARE FOR BIDDING PURPOSES ONLY. ACTUAL DIMENSIONS SHALL BE VERIFIED BY THE CONTRACTOR AND COORDINATED WITH RESPECTIVE EQUIPMENT. PRE-CAST CONCRETE VAULTS AND FIBER REINFORCED CONCRETE VAULTS ARE ACCEPTABLE ALTERNATIVES TO CAST-IN-PLACE CONCRETE VAULTS. VAULT AND EQUIPMENT ANCHORING DESIGN SHALL BE PROVIDED BY THE CONTRACTOR IN ACCORDANCE WITH SPECIFICATION 26 05 48.
3. DETAIL DOES NOT SHOW REVERSE FUSE SIDE COMPARTMENTS 3 & 4 FOR CLARITY PURPOSES ONLY.
4. REFERENCE 1/E0.3 FOR EXISTING AND NEW FEEDER INFORMATION. CONDUIT SHOWN FOR REFERENCE INFORMATION ONLY.
5. PROVIDE NEW TERMINATIONS FOR NEW 'CTT1' CONDUCTORS. RECONNECT SALVAGED TERMINATIONS FOR UTILITY FEEDER AND 'CTT5' FEEDER. REFERENCE 1/E0.3.



1 GROUND DETAIL

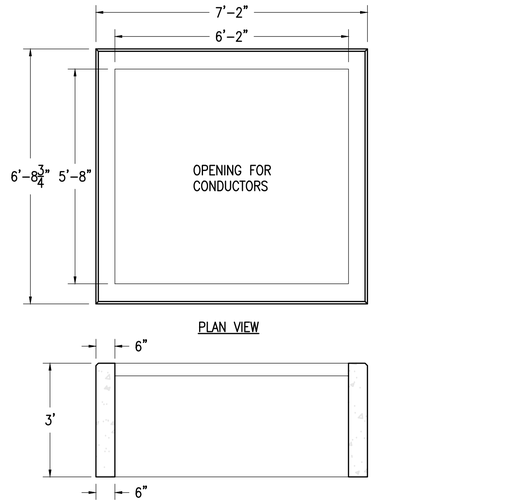
NO SCALE

CALL BEFORE YOU DIG	
THE CONTRACTOR SHALL NOTIFY ALL AREA UTILITY COMPANIES PRIOR TO COMMENCEMENT OF EXCAVATION. THE FOLLOWING IS A PARTIAL LIST:	
LOCATE CALL CENTER OF ALASKA	278-3121
COPPER VALLEY ELECTRIC ASSOCIATION	811



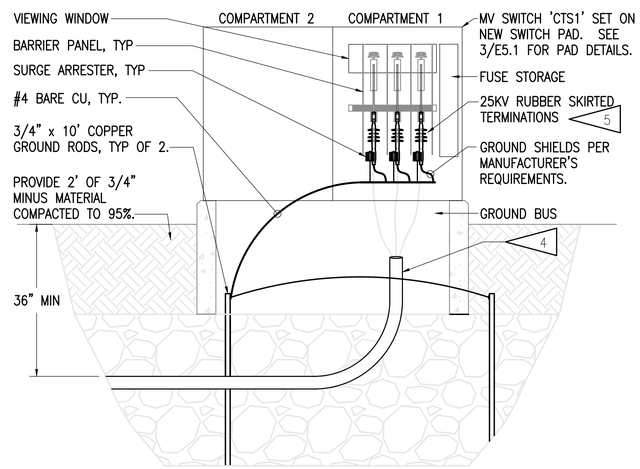
2 TRENCHING DETAIL

NO SCALE



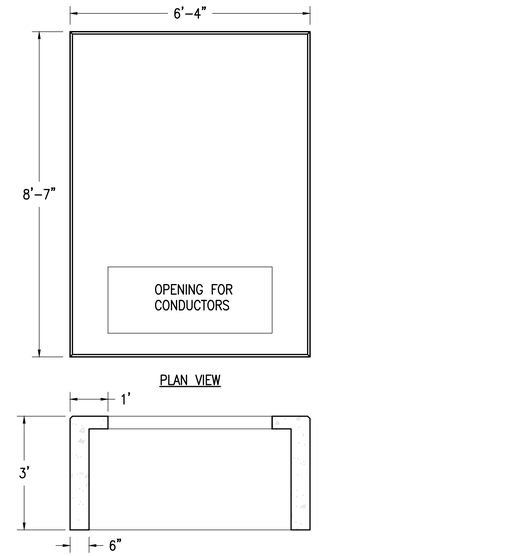
3 MEDIUM VOLTAGE SWITCH PAD DETAILS 2

AS SHOWN



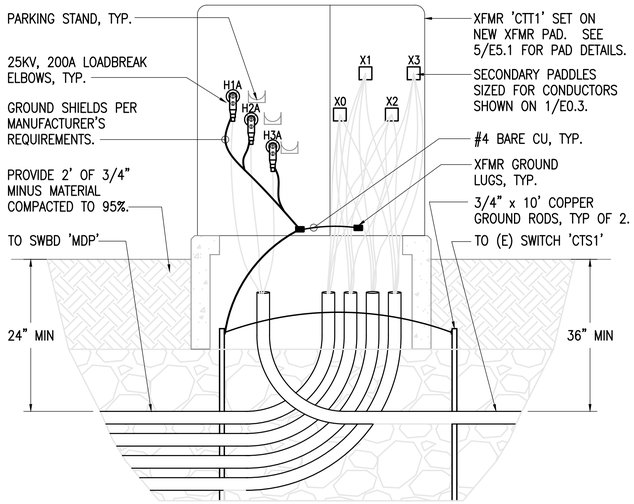
4 MEDIUM VOLTAGE SWITCH DETAIL 3

AS SHOWN



5 MEDIUM VOLTAGE XFMR PAD DETAILS 2

AS SHOWN



6 MEDIUM VOLTAGE XFMR DETAIL

AS SHOWN

RSA Engineering, Inc.
MECHANICAL AND ELECTRICAL CONSULTING ENGINEERS
670 West Fireweed Lane, Suite 200
Anchorage, AK 99503
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Corporate No.: AECC542

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VALDEZ CONTAINER TERMINAL
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CITY OF VALDEZ
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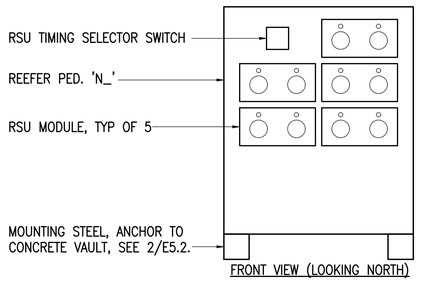
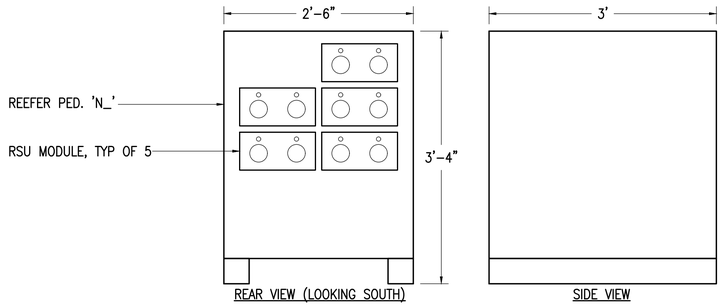
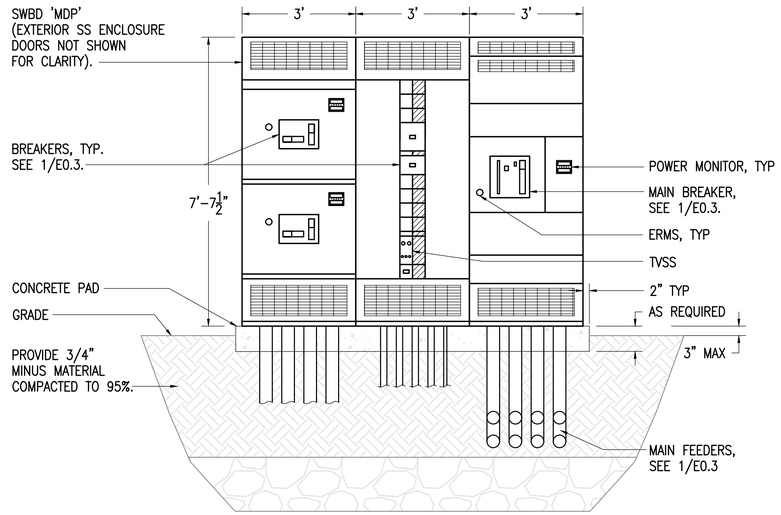
DRAWING TITLE:
DETAILS

SHEET:
E5.1

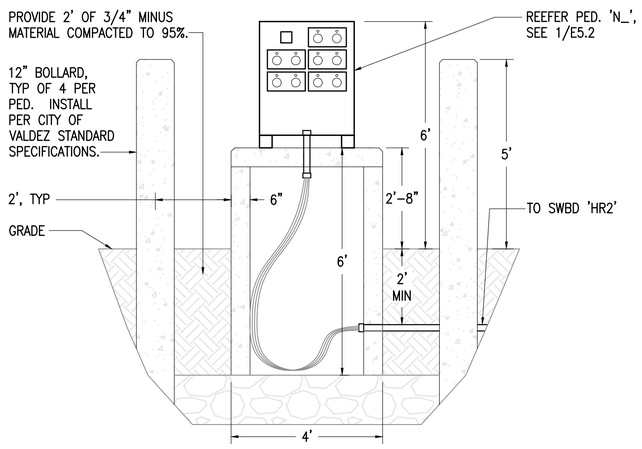




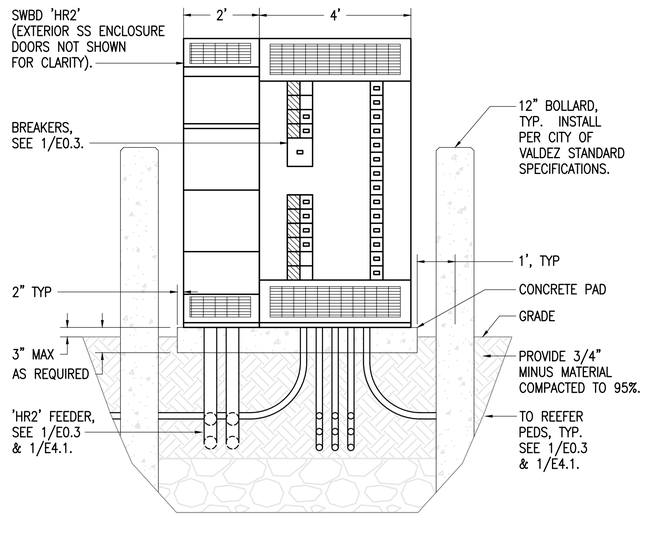
1 REEFER PEDESTAL DETAILS
AS SHOWN



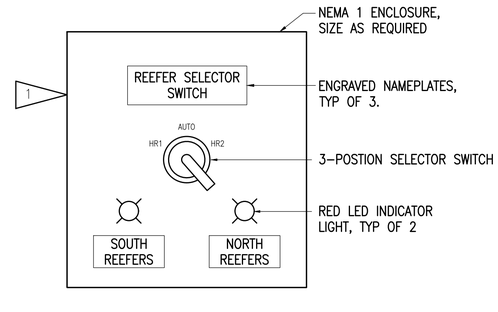
3 SWBD 'MDP' DETAIL
AS SHOWN



2 REEFER PEDESTAL VAULT DETAILS
AS SHOWN



4 SWBD 'HR2' DETAIL (LOOKING SOUTH)
AS SHOWN



5 SELECTOR SWITCH DETAIL
NO SCALE

GENERAL NOTES:

A. SEE GENERAL NOTES ON E1.1.

B. PROVIDE CONCRETE HOUSEKEEPING PADS/VAULTS FOR EQUIPMENT AS SHOWN AND/OR NOTED ON THE DRAWINGS. HOUSEKEEPING PAD/VAULT DESIGN AND EQUIPMENT ANCHORING DESIGN SHALL BE PROVIDED BY THE CONTRACTOR IN ACCORDANCE WITH SPECIFICATION 26 05 48.

SHEET NOTES:

1. PROVIDE 3-POSITION SWITCH THAT WILL ALLOW THE OWNER TO SELECT WHICH REEFER PANEL TO POWER FROM THE SDG AT ANY GIVEN TIME. TWO POSITIONS ARE FOR MANUAL SELECTION OF EITHER PANEL 'HR1' OR 'HR2' AND THE THIRD POSITION SHALL BE AN AUTO POSITION RESERVED FOR FUTURE USE. CONNECT THE SELECTOR SWITCH TO OPERATE THE SHUNT TRIP AND REMOTE CLOSE BREAKER FUNCTIONS SHOWN/NOTED ON 1/E0.3. PROVIDE NAMEPLATES AND INDICATOR LIGHTS AS SHOWN. PROVIDE ALL CONDUIT AND WIRING REQUIRED FOR PROPER OPERATION. LOCATE WITHIN GENERATOR ENCLOSURE IN APPROXIMATE LOCATION SHOWN ON 1/E3.3.

RSA Engineering, Inc.
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6700 West Howard Lane, Suite 200
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Phone (907) 276-0521
Corporate No.: AECC542

VALDEZ CONTAINER TERMINAL
ELECTRICAL UPGRADES

CITY OF VALDEZ
P.O. BOX 307
VALDEZ, AK 99686

REVISIONS:

DRAWN BY:	DB
CHECKED BY:	DB
DATE:	01/28/2019
JOB NUMBER:	L7259
DWG FILE:	L7259 - ESeries

DRAWING TITLE:
DETAILS

SHEET:
E5.2

MAIN DISTRIBUTION PANEL 'MDP'

MFR/MODEL: SQUARE D QED SWITCHBOARD | VOLTS: 277/480V,3PH,4W | ENCLOSURE: NEMA 3R SS | 3000 A
MTG SPACE: AS REQUIRED | VOLT-AMPS | MTG: PAD MOUNTED

NOTE	POLE	AMPS	SERVICE	TYPE	A	B	C	TYPE	SERVICE	AMPS	POLE	NOTE
a	3	*	PANEL 'HA' VIA 'ATS-HA'	FEDR	112545 1195776			FEDR	PANEL 'HR2' VIA 'ATS-HR2'	*	3	a,b
a	3	*	^^^	FEDR		112395 1195776		FEDR	^^^	*	3	a,b
a	3	*	^^^	FEDR			107575 1169204	FEDR	^^^	*	3	a,b
a,b	3	*	PANEL 'HR1' VIA 'ATS-HR1'	FEDR	1195776			FEDR	PFCE 'PF1'	*	3	a
a,b	3	*	^^^	FEDR		1195776		FEDR	^^^	*	3	a
a,b	3	*	^^^	FEDR			1169204	FEDR	^^^	*	3	a
a	3	*	SPARE						SPACE	-	3	
a	3	*	^^^						^^^		3	
a	3	*	^^^						^^^		3	

AVAILABLE FAULT CURRENT : 42,551 A | AIC RATING: 65,000

PANEL NOTES:
a SEE POWER ONE-LINE DIAGRAM FOR BREAKER SIZE/TYPE
b PROVIDE SEPARATE POWER MONITOR FOR FEEDER NOTED, INTEGRAL TO EQUIPMENT.

PANEL OPTIONS:
MAIN CIRCUIT BREAKER (SEE ONE-LINE FOR SIZE)
INTEGRAL TVSS
PROVIDE WITH INTEGRAL POWER MONITOR

GENERATOR DISTRIBUTION PANEL 'GDP'

MFR/MODEL: SQUARE D QED SWITCHBOARD | VOLTS: 277/480V,3PH,4W | ENCLOSURE: NEMA 1 | 1600 A
MTG SPACE: AS REQUIRED | VOLT-AMPS | MTG: FREE STANDING

NOTE	POLE	AMPS	SERVICE	TYPE	A	B	C	TYPE	SERVICE	AMPS	POLE	NOTE
a	3	*	PANEL 'HA' VIA 'ATS-HA'	FEDR	112545 1195776			FEDR	PANEL 'HR2' VIA 'ATS-HR2'	*	3	a
a	3	*	^^^	FEDR		112395 1195776		FEDR	^^^	*	3	a
a	3	*	^^^	FEDR			107575 1169204	FEDR	^^^	*	3	a
a	3	*	PANEL 'HR1' VIA 'ATS-HR1'	FEDR	1195776			HEAT	LOAD BANK	*	3	a
a	3	*	^^^	FEDR		1195776		HEAT	^^^	*	3	a
a	3	*	^^^	FEDR			1169204	HEAT	^^^	*	3	a
a	3	*	SPARE						SPACE	-	3	
a	3	*	^^^						^^^		3	
a	3	*	^^^						^^^		3	

AVAILABLE FAULT CURRENT : 42,551 A | AIC RATING: 65,000

PANEL NOTES:
a SEE POWER ONE-LINE DIAGRAM FOR BREAKER SIZE/TYPE

PANEL OPTIONS:
MAIN LUGS ONLY

PANEL 'HR1'

MFR/MODEL: SQUARE D QED SWITCHBOARD | VOLTS: 480V, 3PH, 3W | ENCLOSURE: NEMA 1 | 1600 A
MTG SPACE: AS REQUIRED | VOLT-AMPS | MTG: FREE STANDING

NOTE	POLE	AMPS	SERVICE	TYPE	A	B	C	TYPE	SERVICE	AMPS	POLE	NOTE
a	3	150	(E) REEFER PED. 'A'	SPEC	66432 66432			SPEC	(E) REEFER PED. 'L'	150	3	a
a	3	150	^^^	SPEC		66432 66432		SPEC	^^^	150	3	a
a	3	150	^^^	SPEC			66432 66432	SPEC	^^^	150	3	a
a	3	150	(E) REEFER PED. 'B'	SPEC	66432 66432			SPEC	(E) REEFER PED. 'M'	150	3	a
a	3	150	^^^	SPEC		66432 66432		SPEC	^^^	150	3	a
a	3	150	^^^	SPEC			66432 66432	SPEC	^^^	150	3	a
a	3	150	(E) REEFER PED. 'C'	SPEC	66432 66432			SPEC	(E) REEFER PED. 'N'	150	3	a
a	3	150	^^^	SPEC		66432 66432		SPEC	^^^	150	3	a
a	3	150	^^^	SPEC			66432 66432	SPEC	^^^	150	3	a
a	3	150	(E) REEFER PED. 'D'	SPEC	66432 66432			SPEC	(E) REEFER PED. 'P'	150	3	a
a	3	150	^^^	SPEC		66432 66432		SPEC	^^^	150	3	a
a	3	150	^^^	SPEC			66432 66432	SPEC	^^^	150	3	a
a	3	150	(E) REEFER PED. 'E'	SPEC	66432 66432			SPEC	(E) REEFER PED. 'Q'	150	3	a
a	3	150	^^^	SPEC		66432 66432		SPEC	^^^	150	3	a
a	3	150	^^^	SPEC			66432 66432	SPEC	^^^	150	3	a
a	3	150	(E) REEFER PED. 'F'	SPEC	66432 66432			SPEC	(E) REEFER PED. 'R'	150	3	a
a	3	150	^^^	SPEC		66432 66432		SPEC	^^^	150	3	a
a	3	150	^^^	SPEC			66432 66432	SPEC	^^^	150	3	a
a	3	150	(E) REEFER PED. 'G'	SPEC	66432 66432			SPEC	(E) REEFER PED. 'S'	150	3	a
a	3	150	^^^	SPEC		66432 66432		SPEC	^^^	150	3	a
a	3	150	^^^	SPEC			66432 66432	SPEC	^^^	150	3	a
a	3	150	(E) REEFER PED. 'H'	SPEC	66432 66432			SPEC	(E) REEFER PED. 'T'	150	3	a
a	3	150	^^^	SPEC		66432 66432		SPEC	^^^	150	3	a
a	3	150	^^^	SPEC			66432 66432	SPEC	^^^	150	3	a
a	3	150	(E) REEFER PED. 'J'	SPEC	66432				SPARE	150	3	
a	3	150	^^^	SPEC		66432			^^^	150	3	
a	3	150	^^^	SPEC			66432		^^^	150	3	
a	3	150	(E) REEFER PED. 'K'	SPEC	66432				SPACE	-	3	
a	3	150	^^^	SPEC		66432			^^^		3	
a	3	150	^^^	SPEC			39860		^^^		3	
TOTAL V-A						1195776	1195776	1169204		3,560,756	VA	
TOTAL AMPS						4,317	4,317	4,221		4,283	A	

AVAILABLE FAULT CURRENT : 37,113 A | AIC RATING: 42,000

	LTG	REC	MOTR	LG MTR	MISC	KIT	HEAT	SPEC	TOTAL	AMPS
DEMAND LOAD IN KVA:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1032.62	1,032.6 KVA	1242 A

PANEL NOTES:
a DENOTES AN (E) LOAD PREVIOUSLY CONNECTED TO DEMOLISHED PANEL '1H' OR '2H'.

PANEL OPTIONS:
MAIN LUGS ONLY

PANEL 'HR2'

MFR/MODEL: SQUARE D QED SWITCHBOARD | VOLTS: 480V, 3PH, 3W | ENCLOSURE: NEMA 3R SS | 1600 A
MTG SPACE: AS REQUIRED | VOLT-AMPS | MTG: PAD MOUNTED

NOTE	POLE	AMPS	SERVICE	TYPE	A	B	C	TYPE	SERVICE	AMPS	POLE	NOTE
	3	150	REEFER PED. 'NA'	SPEC	66432 66432			SPEC	REEFER PED. 'NL'	150	3	
	3	150	^^^	SPEC		66432 66432		SPEC	^^^	150	3	
	3	150	^^^	SPEC			66432 66432	SPEC	^^^	150	3	
	3	150	REEFER PED. 'NB'	SPEC	66432 66432			SPEC	REEFER PED. 'NM'	150	3	
	3	150	^^^	SPEC		66432 66432		SPEC	^^^	150	3	
	3	150	^^^	SPEC			66432 66432	SPEC	^^^	150	3	
	3	150	REEFER PED. 'NC'	SPEC	66432 66432			SPEC	REEFER PED. 'NN'	150	3	
	3	150	^^^	SPEC		66432 66432		SPEC	^^^	150	3	
	3	150	^^^	SPEC			66432 66432	SPEC	^^^	150	3	
	3	150	REEFER PED. 'ND'	SPEC	66432 66432			SPEC	REEFER PED. 'NP'	150	3	
	3	150	^^^	SPEC		66432 66432		SPEC	^^^	150	3	
	3	150	^^^	SPEC			66432 66432	SPEC	^^^	150	3	
	3	150	REEFER PED. 'NE'	SPEC	66432 66432			SPEC	REEFER PED. 'NQ'	150	3	
	3	150	^^^	SPEC		66432 66432		SPEC	^^^	150	3	
	3	150	^^^	SPEC			66432 66432	SPEC	^^^	150	3	
	3	150	REEFER PED. 'NF'	SPEC	66432 66432			SPEC	REEFER PED. 'NR'	150	3	
	3	150	^^^	SPEC		66432 66432		SPEC	^^^	150	3	
	3	150	^^^	SPEC			66432 66432	SPEC	^^^	150	3	
	3	150	REEFER PED. 'NG'	SPEC	66432 66432			SPEC	REEFER PED. 'NS'	150	3	
	3	150	^^^	SPEC		66432 66432		SPEC	^^^	150	3	
	3	150	^^^	SPEC			66432 66432	SPEC	^^^	150	3	
	3	150	REEFER PED. 'NH'	SPEC	66432 66432			SPEC	REEFER PED. 'NT'	150	3	
	3	150	^^^	SPEC		66432 66432		SPEC	^^^	150	3	
	3	150	^^^	SPEC			66432 66432	SPEC	^^^	150	3	
	3	150	REEFER PED. 'NJ'	SPEC	66432				SPARE	150	3	
	3	150	^^^	SPEC		66432			^^^	150	3	
	3	150	^^^	SPEC			66432		^^^	150	3	
	3	150	REEFER PED. 'NK'	SPEC	66432				SPACE	-	3	
	3	150	^^^	SPEC		66432			^^^		3	
	3	150	^^^	SPEC			39860		^^^		3	
TOTAL V-A						1195776	1195776	1169204		3,560,756	VA	
TOTAL AMPS						4,317	4,317	4,221		4,283	A	

AVAILABLE FAULT CURRENT : 24,808 A | AIC RATING: 30,000

	LTG	REC	MOTR	LG MTR	MISC	KIT	HEAT	SPEC	TOTAL	AMPS
DEMAND LOAD IN KVA:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1032.62	1,032.6 KVA	1242 A

PANEL NOTES:

PANEL OPTIONS:
MAIN LUGS ONLY

GENERAL NOTES:

A. REFERENCE THE POWER ONE-LINE DIAGRAMS ON E0.2 AND E0.3 FOR ADDITIONAL INFORMATION REGARDING EXISTING TO REMAIN CIRCUITS ON DEMOLISHED PANELS.

B. LOADS SHOWN FOR EXISTING TO REMAIN FEEDERS AND BRANCH CIRCUITS ARE ASSUMED/ESTIMATED BASED UPON THE RATING OF THE BREAKER.

C. EXISTING AND NEW REEFER PEDESTALS CALCULATED AT A CONSERVATIVE 24A PER RECEPTACLE. DEMAND LOADS FOR PEDESTALS CALCULATED AT 29% IN ACCORDANCE WITH NEC 626.11(B).

STATE OF ALASKA
DAVIN K. BLUBAUGH
EE-13981
12/28/19
REGISTERED PROFESSIONAL ENGINEER

RSA Engineering, Inc.
MECHANICAL AND ELECTRICAL CONSULTING ENGINEERS
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Phone (907) 276-0521
Corporate No.: AECC542

VALDEZ CONTAINER TERMINAL
ELECTRICAL UPGRADES

CITY OF VALDEZ
P.O. BOX 307
VALDEZ, AK 99686

REVISIONS:

DRAWN BY: DB
CHECKED BY: DB
DATE: 01/28/2019
JOB NUMBER: L7259
DWG FILE: L7259 - ESeries

DRAWING TITLE:
PANEL SCHEDULES

SHEET:
E6.1

PANEL 'HA'

MFR/MODEL: SQUARE D I-LINE | VOLTS: 277/480V,3PH,4W | ENCLOSURE: NEMA 1 | 600 A

MTG SPACE: AS REQUIRED | VOLT-AMPS | MTG: SURFACE

NOTE	POLE	AMPS	SERVICE	TYPE	A		B		C		TYPE	SERVICE	AMPS	POLE	NOTE
a,b	3	*	(E) SCALE HOUSE	FEDR	33000	35097					FEDR	PANEL 'HB'	*	3	a,d
a,b	3	*	^^^	FEDR			33000	33997			FEDR	^^^	*	3	a,d
a,b	3	*	^^^	FEDR					33000	33997	FEDR	^^^	*	3	a,d
a,b	3	*	(E) CAPSTANS - WEST	FEDR	9134	15830					FEDR	PANEL 'LA' VIA XFMR 'TLA'	*	3	a,d
a,b	3	*	^^^	FEDR			9134	16780			FEDR	^^^	*	3	a,d
a,b	3	*	^^^	FEDR					9134	16760	FEDR	^^^	*	3	a,d
a,b	3	*	(E) CAPSTANS - EAST	FEDR	9134	4800					FEDR	(E) SUBSTATION 'GO' (TRESTLE)	30	2	c
a,b	3	*	^^^	FEDR			9134	4800			FEDR	^^	30	2	c
a,b	3	*	^^^	FEDR					9134			SPACE	-	1	
c	1	30	(E) HEAT TRACE RAMP & DOCK	HEAT	5550							SPARE	*	3	a
c	1	30	(E) HEAT TRACE RAMP & DOCK	HEAT			5550					^^^	*	3	a
c	1	30	(E) HEAT TRACE RAMP & DOCK	HEAT					5550			^^^	*	3	a
c	1	30	(E) UNKNOWN LOAD									SPACE	-	3	a
c	1	30	(E) UNKNOWN LOAD									^^^		3	a
	1	-	SPACE									^^^		3	a
			TOTAL V-A			112545		112395		107575			332,515	VA	
			TOTAL AMPS			406		406		388			400	A	

AVAILABLE FAULT CURRENT: 32,000 A | AIC RATING: 42,000

	LTG	REC	MOTR	LG MTR	MISC	KIT	HEAT	SPEC	TOTAL	AMPS
CONNECTED LOAD IN KVA (THIS PANEL)	0.00	0.00	0.00	0.00	0.00	0.00	16.65	0.00	16.7 KVA	20 A
CONNECTED LOAD IN KVA (BRANCH PANELS)	103.90	0.36	54.80	2.28	153.80	0.00	3.00	0.00	315.9 KVA	383 A
TOTAL CONNECTED LOAD IN KVA:	103.90	0.36	54.80	2.28	153.80	0.00	19.65	0.00	332.5 KVA	400 A
DEMAND LOAD IN KVA:	129.88	0.36	54.80	2.28	153.80	0.00	24.56	0.00	365.7 KVA	440 A

PANEL NOTES:
- a SEE POWER ONE-LINE DIAGRAM FOR BREAKER SIZE/TYPE
- b DENOTES AN (E) LOAD PREVIOUSLY CONNECTED TO DEMOLISHED PANEL '1H' OR '2H'.
- c DENOTES AN (E) LOAD PREVIOUSLY CONNECTED TO DEMOLISHED PANEL 'X'.
- d DENOTES A NEW LOAD.

PANEL OPTIONS:
MAIN LUGS ONLY
PROVIDE WITH INTEGRAL POWER MONITOR

PANEL 'HB'

MFR/MODEL: SQUARE 'D' TYPE NF | VOLTS: 277/480V,3PH,4W | ENCLOSURE: NEMA 1 | 225 A

VOLT-AMPS | MTG: SURFACE

NOTE	CIRC	POLE	AMPS	SERVICE	TYPE	A		B		C		TYPE	SERVICE	AMPS	POLE	CIRC	NOTE
a	1	3	20	(E) LIGHT POLE #1	LTG	2000	2000					LTG	(E) LIGHT POLE #2	20	3	2	a
a	3	3	20	^^^	LTG			2000	2000			LTG	^^^	20	3	4	a
a	5	3	20	^^^	LTG					2000	2000	LTG	^^^	20	3	6	a
a	7	3	20	(E) LIGHT POLE #3	LTG	3333	3333					LTG	(E) LIGHT POLE #4	20	3	8	b
a	9	3	20	^^^	LTG			3333	3333			LTG	^^^	20	3	10	b
a	11	3	20	^^^	LTG					3333	3333	LTG	^^^	20	3	12	b
a	13	3	20	(E) LIGHT POLE #5	LTG	3333	3333					LTG	(E) LIGHT POLE #6	20	3	14	a
a	15	3	20	^^^	LTG			3333	3333			LTG	^^^	20	3	16	a
a	17	3	20	^^^	LTG					3333	3333	LTG	^^^	20	3	18	a
b	19	3	20	(E) LIGHT POLE #7	LTG	3333	3333					LTG	(E) LIGHT POLE #8	20	3	20	a
b	21	3	20	^^^	LTG			3333	3333			LTG	^^^	20	3	22	a
b	23	3	20	^^^	LTG					3333	3333	LTG	^^^	20	3	24	a
a	25	3	20	(E) LIGHT POLE #9	LTG	3333	3333					LTG	(E) LIGHT POLE #10	20	3	26	a
a	27	3	20	^^^	LTG			3333	3333			LTG	^^^	20	3	28	a
a	29	3	20	^^^	LTG					3333	3333	LTG	^^^	20	3	30	a
a	31	3	20	(E) LIGHT POLE #11	LTG	3333	1100					LTG	(E) OBSTRUCTION LIGHTS	20	1	32	b
a	33	3	20	^^^	LTG			3333					SPARE	20	1	34	
a	35	3	20	^^^	LTG					3333			SPARE	20	1	36	
	37	3	20	SPARE									SPARE	20	3	38	
	39	3		^^^									^^^		3	40	
	41	3		^^^									^^^		3	42	
				TOTAL V-A			35097		33997		33997			103,091	VA		
				TOTAL AMPS			127		123		123			124	A		

A.I.C. RATING: 10,000

	LTG	RECP	MOTR	LG.MT	MISC	KIT	HEAT	SPEC	TOTAL	AMPS
TOTAL CONNECTED LOAD IN KVA:	103.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	103.1 KVA	124 A
DEMAND LOAD IN KVA:	128.86	0.00	0.00	0.00	0.00	0.00	0.00	0.00	128.9 KVA	155 A

PANEL NOTES:
- a DENOTES AN (E) LOAD PREVIOUSLY CONNECTED TO DEMOLISHED PANEL '1H' OR '2H'.
- b DENOTES AN (E) LOAD PREVIOUSLY CONNECTED TO DEMOLISHED PANEL 'X'.

PANEL OPTIONS:
MAIN LUGS ONLY
PROVIDE WITH INTEGRAL POWER MONITOR

PANEL 'LA'

MFR/MODEL: SQUARE 'D' TYPE NQ | VOLTS: 120/208V,3PH,4W | ENCLOSURE: NEMA 1 | 225 A

VOLT-AMPS | MTG: SURFACE

NOTE	CIRC	POLE	AMPS	SERVICE	TYPE	A		B		C		TYPE	SERVICE	AMPS	POLE	CIRC	NOTE
c	1	1	20	(E) NAVIGATION LIGHTS	LTG	300	180					RECP	(E) TTB RECEPTACLE	20	1	2	c
c	3	1	20	(E) WEST HEATER	HEAT			1500	180			RECP	(E) RECEPTACLE	20	1	4	c
c	5	1	20	(E) EAST HEATER	HEAT					1500	260	LTG	(E) BLDG LIGHTS - INTERIOR	20	1	6	c
c	7	1	20	(E) HEAT TRACE CONTROL	MISC	100	250					LTG	(E) BLDG LIGHTS - EXTERIOR	20	1	8	c
	9	1	20	SPARE					100			MISC	(E) LIGHTING CONTROLS	20	1	10	c
	11	1	20	SPARE									SPARE	20	1	12	
a,b	13	3	*	(E) NORTH STAR BUILDING	FEDR	9000	6000					FEDR	PANEL 'GEN'	*	3	14	a,d
a,b	15	3	*	^^^	FEDR			9000	6000			FEDR	^^^	*	3	16	a,d
a,b	17	3	*	^^^	FEDR					9000	6000	FEDR	^^^	*	3	18	a,d
	19	1	20	SPARE									SPARE	20	1	20	
	21	1	20	SPARE									SPARE	20	1	22	
	23	1	20	SPARE									SPARE	20	1	24	
	25	1	-	SPACE									SPACE	-	1	26	
	27	1	-	SPACE									SPACE	-	1	28	
	29	1	-	SPACE									SPACE	-	1	30	
				TOTAL V-A			15830		16780		16760			49,370	VA		
				TOTAL AMPS			132		140		140			137	A		

A.I.C. RATING: 10,000

	LTG	RECP	MOTR	LG.MT	MISC	KIT	HEAT	SPEC	TOTAL	AMPS
CONNECTED LOAD IN KVA (THIS PANEL):	0.81	0.36	0.00	0.00	0.20	0.00	3.00	0.00	4.4 KVA	12 A
CONNECTED LOAD IN KVA (BRANCH PANELS):	0.00	0.00	0.00	0.00	45.00	0.00	0.00	0.00	45.0 KVA	125 A
TOTAL CONNECTED LOAD IN KVA:	0.81	0.36	0.00	0.00	45.20	0.00	3.00	0.00	49.4 KVA	137 A
DEMAND LOAD IN KVA:	1.01	0.36	0.00	0.00	45.20	0.00	3.75	0.00	50.3 KVA	140 A

PANEL NOTES:
- a SEE POWER ONE-LINE DIAGRAM FOR BREAKER SIZE/TYPE.
- b DENOTES AN (E) LOAD PREVIOUSLY CONNECTED TO DEMOLISHED PANEL '2L'.
- c DENOTES AN (E) LOAD PREVIOUSLY CONNECTED TO DEMOLISHED PANEL 'XE'.
- d DENOTES A NEW LOAD.

PANEL OPTIONS:
MAIN CIRCUIT BREAKER (SEE ONE-LINE FOR SIZE)
INTEGRAL TVSS

GENERAL NOTES:

A. REFERENCE THE POWER ONE-LINE DIAGRAMS ON E0.2 AND E0.3 FOR ADDITIONAL INFORMATION REGARDING EXISTING TO REMAIN CIRCUITS ON DEMOLISHED PANELS.

B. LOADS SHOWN FOR EXISTING TO REMAIN FEEDERS AND BRANCH CIRCUITS ARE ASSUMED/ESTIMATED BASED UPON THE RATING OF THE BREAKER.

STATE OF ALASKA — DAVIN K. BLUBAUGH — EE-13891 — 1/28/19 — REGISTERED PROFESSIONAL ENGINEER

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VALDEZ CONTAINER TERMINAL
ELECTRICAL UPGRADES

CITY OF VALDEZ
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REVISIONS:

DRAWN BY: DB
CHECKED BY: DB
DATE: 01/28/2019
JOB NUMBER: L7259
DWG FILE: L7259 - ESeries

DRAWING TITLE:
PANEL SCHEDULES

SHEET:
E6.2